SAN FRANCISCO
PUBLIC LIBRARY

REFERENCE
BOOK

Not to be taken from the Library

MAY 22 1968

Digitized by the Internet Archive
in 2025

https://archive.org/details/bwb_S0-CGR-616_1

The Naturalist in Manchuria.

The Anchorage at the Mouth of the Yalu River.

The Naturalist in Manchuria, By Arthur de Carle Sowerby

F.R.G.S., F.Z.S., M.B.O.U. Author of:—"Fur and Feather in North China;" "A Sportsman's Miscellany;" "Sport and Science on the Sino-Mongolian Frontier;" and joint author with Robert Sterling Clark of "Through Shên Kan." . . .

With Photographs and Sketches by the Author.

Volume I.

Travel and Exploration.

TIENTSIN:
TIENTSIN PRESS, LIMITED.
1922.

REF
590.951.So93,V.1
Sowerby, Arthur de Carle
The naturalist in
Manchuria

*590.951
So93 1
199127

S.F. PUBLIC LIBRARY

To
My Father and Mother,
to whom I owe more than can ever be told,
this book is affectionately dedicated.
1922.

PREFACE.

THE object of the present book, which is the result of several years' work both in the field and study, is to place before the public an account of a series of Biological and Geographical explorations carried out by the author on behalf of the Smithsonian Institution (United States National Museum) in the comparatively little known, though wonderfully interesting, region, of which present day Manchuria forms the centre.

The first volume is devoted to descriptions of journeys through the country, the country itself, and personal experiences while carrying out investigations upon, and making collections of, the fauna of the hitherto biologically unexplored areas. It is hoped that this section will appeal to the general public, to whom it is chiefly addressed. The rest of the book, divided into four further volumes, deals with the animals themselves and problems concerning them and is meant more for students of natural history and future collectors and explorers in the country; though it is felt that these pages also may be found to contain matter of interest to the general reader.

At present what is known of the animals of Manchuria occurs in a very wide and scattered literature, written in many languages and published in many forms and in many countries, so that the student must experience considerable difficulty in trying to gain a comprehensive knowledge of the subject. An attempt therefore has been made to add to the records of the author's own work accounts of the work of others as recorded in this expansive literature, and to bring within a comparatively narrow compass as much as possible of what is known of the mammals, birds ,reptiles, fishes and lower forms of life of the region under discussion.

The term "Manchuria" as used in the title must be taken in its widest sense, referring rather to the great stretch of country conquered and ruled by the founder of the Manchu dynasty than

to present day Manchuria, or Chinese Manchuria, as it has been called, which includes only the three provinces of Fengtien (formerly call Shêngking), Kirin, and Heilungkiang.

In the old days, when the Russians in their eastward march of conquest across Siberia reached the basin of the Amur, they met for the first time the outposts of the Chinese (or Manchu) Empire, which then extended up to and beyond the Yablonoi and Stenavoi Mountains, on the northern rim of that basin, and it was only the signing of the Treaty of Aigun in 1858, after the Manchu forces had been defeated in the field, that created the Amur River the northern boundary and the Ussuri River the eastern boundary of the Manchurian Empire, and that gave to Russia the extensive areas that lie to the north of the Amur and east of the Ussuri, known to-day as the Amur Province, or Pre-Amur, and the Primorsk, Maritime Province, or Primorskaya, respectively. Taking, then, for its northern boundary the watershed of the Yablonoi and Stenavoi Mountains, it may be said that Manchuria, or the Manchurian Region, as it may be called, alternatively is bounded on the west by the sandy wastes and grassy 'steppes' of East Mongolia, while eastward and southward it extends to the sea, and includes the Island of Saghalin and the Kuril Islands. In the south-east the boundary is marked by the Yalu and Tumen Rivers, dividing Manchuria from Corea; while in the south-west the Great Wall of China, the only artificial boundary, may be taken as dividing Manchuria from China.

This wide area, it will be found, corresponds roughly to the Manchuria of the founder of the great Ch'ing dynasty, Nurhachu by name, and this is the country with which this book deals.

No apologies are offered for the extended scope of the several volumes of this work, for it is felt that books on both travel and natural history to do with Eastern Asia, and especially the parts dealt with here, are all too few. The classics on natural history of half a century ago are for the most part inaccessible to the present day student and worker, unless he be within easy reach of some large Museum, and in any case the nomenclature used in them has been largely revised by modern naturalists, so that new works, and ever new works, are called for.

The author is indebted to many kind friends and correspondents for assistance in one way and another. Thanks are due to Mr. Gerrit S. Miller, Jr. and Mr. Ned Hollister for identifying the mammals collected in Manchuria and sent to the Smithsonian

Institution; to Mr. J. H. Riley, and Dr. C. W. Richmond, who did the same for the birds; to Professor B. A. Bean for the names and original references of the fishes; to Dr. L. Stejneger for those of the reptiles and batrachians (or amphibians); to Miss M. J. Rathbun for those of the crustaceans; and to Dr. E. A. Schwarz, and Messrs. C. T. Greene, R. A. Cushman, Knab, and A. N. Caudell for those of the insects.

His thanks are also due to the custodians, and members of the staffs of the various departments of the Natural History Museum at South Kensington, with which he had to deal, for their courtesy and assistance, especially to Mr. Oldfield Thomas, and his assistant, Mr. M. A. C. Hinton, of the mammals department; to Dr. P. Lowe, Mr. C. Chubb and Mr. T. Wells of the ornithological department; to Dr. G. A. Boulenger of the reptile department, Mr. R. Tate Regan of the fish department, Dr. C. J. Gahan of the insect department, and Mr. G. C. Robson of the mollusk department

Dr. David Starr Jordan's extensive writings upon the fish, marine and fresh-water, of the general region dealt with have been of the greatest assistance.

Particularly does the author owe a great debt of gratitude to the late Dr. George E. Morrison of Peking, formerly the *Times'* Peking correspondent, and more recently political adviser to the Chinese Republican Government, for his friendship, guidance, and continual encouragement, as well as for his very liberal assistance in the way of procuring reference literature, which would otherwise have been inaccessible in China, where this book was commenced. Dr. Morrison's magnificent library of books on China, the most complete extant, was always at the author's command, and but for it this book could never have been undertaken in its present somewhat extensive form.

Mr. J. D. de La Touche, who must be considered one of the leading authorities on the ornithology of China, has rendered frequent and most valuable assistance with the identification and descriptions of the birds, by allowing the author access to his very extensive and complete collections of Chinese species. He also assisted in finding references to the original descriptions in the vast literature that exists upon the subject.

ARTHUR DE CARLE SOWERBY.

Introduction.

Manchuria, the land of the Manchus, and home of many great warriors and ancient conquerors, consists of the three Chinese provinces of Fengtien, Kirin, and Heilungkiang, and, in its widest sense, which is that adopted for the purposes of this book, also of the two Russian provinces of the Amur and Primorsk. Bounded on the west by the Siberian province of Transbaikalia, Eastern Mongolia, and the Chinese province of Chihli; on the south by tho Liao-tung Gulf, and Corea Bay, offshoots of the Pe-chi-li Gulf, and Yellow Sea; on the north by the northern rim of the Amur basin, which follows the Yablonoi and Stenavoi Divides; on the east by the Gulf of Tartary, and the Japan Sea; and on the south-east by Corea, Manchuria, topographically, has no individuality of its own, but belongs in part to each of the various types of country surrounding it.

Thus the south-west, chiefly occupied by the province of Fengtien, in its configuration, vegetation, fauna, and to a large extent its climate, belongs to North-eastern China, from which it is separated by no natural feature or barrier. The great plains of the Liao Valley are in many ways the exact counterpart of those of Chihli; while the mountains of the latter province are continuous with those of South-west Fengtien. The Liao River has the same characteristics as the rivers of Chihli, being heavily charged with silt, subject to severe flooding, and having a marked tendency to shift its course over the wide bed down which it flows.

There is but little timber in this area, and, though more humid in summer, the climate in winter is dry and cold, as in North China.

Part of the North-west of Fengtien, North-western Kirin, and South-western Heilungkiang belong to the sand-waste and steppes of Eastern Mongolia. Here, in places, sand and scanty herbage prevail, in others rolling grasslands; while the climate, fauna, and flora are Mongolian. The inhabitants, where they have not been replaced by recent Chinese settlers, are Mongols, living the nomad life typical of that race.

The rest of Manchuria, except for the lower reaches of the Yalu, which are Corean, is purely Siberian, consisting of extensive forest and meadow-land, which means that it is typically holarctic. And naturally its fauna, and flora, as well as its climate pertain to this great faunal and floral region, and so, on the whole, will be familiar to European and American nature lovers.

This wide stretch of country is drained by many great rivers, and contains several important mountain ranges. The Liao River, rising in East Mongolia, drains the province of Fengtien, emptying itself into the Liao-tung Gulf. The Yalu drains Southern Kirin, rising on the southern slopes of the Chang-pai Shan, and flowing in a south-westerly direction between Manchuria and Corea. The mighty Amur, with its great tributaries the Sungari and Ussuri, drain the rest of the Manchurian Region, the Amur and its upper and north-bank tributaries draining Northern Heilungkiang and the Amur Province, the Sungari with its tributaries the Nonni Ho and Hurka River (or Mu-tan Kiang—Peony River) draining South-western and Southern Heilungkiang, and Central Kirin, north of the Chang-pai Shan, and the Ussuri draining eastern Kirin and the Primorsk.

There is a large lake called Hanka (or Chanka) in the upper basin of the Ussuri; a much smaller one on the Hurka called Burei, or Nan Hai; a few small lakes in the Nonni basin; and some others in the lower reaches of the Amur.

The Chang-pai Shan, a chain of volcanic mountains, of which the culminating peak is known as the Lao Pai Shan (or Pak-tu San in Corean), stretches from east to west across South Kirin into Eastern and South-eastern Fengtien. In the craters of the volcanic peaks or vents are small deep lakes.

The Little Khingan (or Hsing-an) Mountains occupy Eastern Heilungkiang; while the Great Khingan Range extends from North-western Heilungkiang southward through Eastern Mongolia to the Chinese border. North of the Amur are numerous more or less irregular ranges, of which the Bureija Mountains are, perhaps, the most important to us; while east of the Ussuri, between it and the sea in Primorskaya, is a range called the Alin Shan. None of these mountains are very high, the highest peak of the Chang-pai Shan, or Ever White Mountains, being not more than about 7,000 ft. above sea level, and the highest parts of the Khingan Ranges not more than 8,000 ft.

Kirin, Heilungkiang, the Primorsk, and the Amur are extensively forested, and are, on the whole, very sparsely settled. Only is Fengtien thickly populated, and it has been the longest occupied.

Of railways Manchuria as yet has comparatively few, though three great and important companies, or institutions, have extensive lines in operation. These are the Chinese Eastern Railway, which runs from Manchuli on the Transbaikalia-Heilungkiang border, south-eastward to Vladivostok on the South Primorsk coast, passing the important towns of Harbin and Ninguta, a branch line running south from Harbin to Ch'ang Ch'ün in North-west Kirin; the Peking-Mukden Railway, which runs from Peking *via* Tientsin, Shanhai-kuan, and other important towns in South-western Fengtien, to Mukden, the capital of the latter province; and the South Manchuria Railway, which is operated by the Japanese, and runs from Ch'ang Chün to Mukden, passing Kai-yuan and Tieh-ling, thence southward, one branch going down the Liao Valley and the Liao-tung Peninsula to Port Arthur and Dalny (or Dairen), and another south-east to Antung at the mouth of the Yalu, where it makes connecting with the Chosen Railway in Corea.

A railway line now joins Ch'ang Chün and Kirin City, or Chuan-chang, the capital of Kirin Province; another extends from Vladivostok northward down the Ussuri Valley to Harbarovsk on the Amur; while yet another extends from Karimska, near Chita on the Trans-Siberian Railway in Transbaikalia, down the Amur, passing Stretensk and Blagoveschensk, and is destined to link up with Harbarovsk, if it has not done so already.

An enormous amount of traffic is carried on the great rivers, the Amur and Sungari having a large fleet of steamers, and the other rivers carrying many kinds of smaller craft.

Though hardly to be compared with China in its minerals, Manchuria, nevertheless, possesses considerable potential wealth in this direction, Liao-tung yielding coal and iron, and other parts gold, silver, and lead. The timber reserve is still immense, while agriculturally the country is of very great importance.

The whole area is bursting with promise, and it is little to be wondered at that at least two of the so-called Great Powers have cast covetous eyes upon its wealth.

It has long deserved the closer acquaintance and attention of British and American scientists as well as merchants and politicians than has been given it in the past. Though Russian explorers

and Germans under the auspices of the Russian Government had been travelling in the Amur and Ussuri Valleys from as early as about 1854, the first British explorers to visit Manchuria were Sir H. E. M. James, and his companions, Sir Francis Younghusband, and Mr. H. E. Fulford of his Majesty's consular service. They made an extended tour through Fengtien, Kirin, and part of Heilungkiang, visiting the Ever White Mountains and their highest peak, the Lao Pai Shan, the sacred mountain of the Manchu Emperors. The following year, 1887, Sir Evan James' book "The Long White Mountain" was published, containing a detailed account of their journey. It might have stimulated further explorations but for the ban placed upon any subsequent enterprize, whether scientific or commercial, by the Manchu Government on the one hand, and a jealous Russian invader on the other.

Nevertheless, from time to time, excursions into this forbidden land continued to be made by English-speaking enthusiasts, who have published accounts of their journeys and the country they passed through in various journals or in book form.

Of these, the most important from an economic and geographical point of view was undoubtedly that carried out by Sir Alexander Hosie, who published an able accont of the country in his book, "Manchuria, its People, Resources and Recent History," in 1901.

Other travellers and residents in Manchuria since James' time, whose accounts appear in the English language are the Rev. J. A. Wylie, Mr. R. T. Turley, Dr. John Ross, Mr. C. H. Hawes, Mr. A. J. A. Douglas, and the well-known author, Putnam Weale, whose highly interesting and piquant book "Manchu and Muscovite," written just before the Russo-Japanese War in 1904-5, so soundly prophesied the defeat of the Russian Empire at the hands of a little people, which for ever blasted the Muscovite dream of an Asiatic Empire

The names of yet other writers and the titles of their works are given in the bibliography at the end of this volume.

A certain number of papers upon Manchuria have been published in the Japanese language, and so are of little use to Europeans, while a great many publications in Russian which occur are of very limited value to English-speaking peoples generally, and probably also to Europeans other than Russian.

Of the earlier explorers in the Manchurian Region, the names of Leopold von Schrenck, and Gustav Radde, as well as those of the men like Maack, who assisted them, stand out. Schrenck's

magnificent work, "Reisen und Forschungen in Amur-Lande in den Jahren 1854-1856," dealing with the results, biological, geological, meteorological, and ethnological, of the expeditions and explorations in the Amur basin, of which he appears to have been the leader, is of great value, even to-day, when many of the names he used in describing the species he collected have given place to others. Radde also published a valuable book on his work. Dr. Dybowski was another important worker of those early days. More recently writers in Russian such as Bianchi, Poliakov, Buturlin, Ognev, Nikolski, Berg and Schmidt, have been busy upon the fauna of the Amur and Ussuri basins, while a few British and Americans, such as Mr. Oldfield Thomas, Dr. Boulenger, Mr. Gerrit S. Miller, Dr. Stejneger, Mr. A. H. Clark, and Dr. Allen, have done a certain amount of descriptive work on the Manchurian fauna. The late Mr. Malcolm P. Anderson, a well-known American collector who worked under the auspices of the Duke of Bedford's Exploration in Eastern Asia, his specimens being presented to the British Museum by His Grace the Duke of Bedford, visited Saghalin Island in 1906, and obtained some interesting mammals there. The Japanese also appear to have done some collecting work, but it is not easy to ascertain just what.

There still remained, however, in 1913, when the author made his first journey into Manchuria, extensive areas that had never been explored or even visited by Europeans, notably the forested areas of Kirin and Heilungkiang.

In the course of extensive explorations in North China, and Southern Mongolia, and investigations upon the faunas of these regions on the part of the author, the necessity arose of making comparisons between those faunas and that of the Manchurian Region, and since this could not be done with only the help of such publications as existed upon the subject, it became necessary to carry out a series of actual explorations in the little known areas already mentioned. It was not till 1913, however, that it was possible to start on the project. In the late spring and summer of that year the West Kirin forests, and Upper Sungari basin were visited. In the following spring the Yalu Valley was visited. In the autumn and early winter of 1914, the forests of North Kirin were visited and biologically explored, and in the late summer and autumn of 1915 the Lower Sungari was explored, an attempt being made to visit the Amur, though without success.

Such new facts and original observations as are recorded in this book were gathered during these four expeditions, and, as the

narrative of these journeys unfolds itself in the following pages, it will be seen that every type of country was visited—wide and fertile plains, heavy, coniferous forests, or lighter woods of deciduous trees, low, grassy hills, or high, rocky peaks, reeking swamps, the valleys of great rolling rivers, or lesser stream-cut ravines. All conditions of weather were experienced, from sweltering summer heat, and tropical deluges, to the bitter frosts of coming winter, and heavy falls of snow. Travel was carried out by railway where possible, or by cart-road, or river, not to mention many a long day's tramp through the trackless forest with pack on back. Sumptuous hotels, native inns, canvas tents, the holds of Chinese river-boats, and the thatches of log-built cabins each in turn gave shelter, and when none of these was available the sky formed a canopy.

Everywhere a sharp lookout was kept for things of interest. Bird migration was watched; the haunts and habits of mammals were studied; while collections of all kinds of creatures, from the great red deer or wapiti and the big black grizzly, down to beetles and spiders, were made.

It is of all this that this book tells, and it is hoped that it may do for the English-speaking public what the works of Schrenck and others have done for the Russians and Germans.

Manchuria may at present command but little interest in Great Britain and America, but it deserves a much greater share, for it is a country of the future. Even as this is being written mighty forces are in conflict in the Far East for the possession of this rich country, and the attentions of British and American politicians, scientists, and merchants, if turned in its direction, would not be wasted.

CONTENTS.

Chapter.		Page
	Preface	i—iii.
	Introduction	v—x.
I.	The First Capital, Palace, and Tombs of the Earliest Manchu Emperors	1— 14.
II.	The Ch'ing Valley and Beyond	15— 26.
III.	The Frog River and Outskirts of the Forest ...	27— 39.
IV.	Wild Life of the Forest Outskirts	41— 52.
V.	The Crater-Lakes	53— 61.
VI.	The Forest Primeval	62— 83.
VII.	Down the Hui-fa Ho to the Sungari River ...	84— 98.
VIII.	A Naturalists' Paradise	99—113.
IX.	A Thief in the Night.	115—123.
X.	The Land of Han Ping Wai, the Robber King...	125—134.
XI.	The Sungari River.	135—146.
XII.	On the Yalu River	147—169.
XIII.	The South Manchurian Coast	171—183.
XIV.	Wapiti Hunting in the I-mien-po district of North Kirin	185—196.
XV.	The Woods in Autumn	197—208.
XVI.	Bear Hunting	209—221.
XVII.	Hunting the Goral	223—229.
XVIII.	The Smaller Denizens of the Woods	231—247.
XIX.	The Lower Sungari, Farming and Floods ...	249—266.
XX.	The Fish-skin Tartars and other People of the Manchurian Region	267—304.
XXI.	Arrested as Spies	305—311.
XXII.	Woodcraft, a Bear, and a Wapiti Stag ...	313—334.
	Bibliography	336—339.
	Index.	341—347.

List of Illustrations.

The Anchorage at the mouth of the Yalu River *Frontispiece*

The Tomb of the Illustrious Emperor Kang Hsi, in the Tung Ling, North-east Chihli 12

The Great Transit Hall of the Mausoleum of the late Empress Dowager, the last capable Manchu ruler. Tung Ling, North-east Chihli 12

Our Cart in difficulties on the way to Chao-yang Chên 18

The Author's Cart overturned in a swamp in the Ha-ma Ho Valley, W. Kirin 18

A Nigger-head or Tussock Grass Swamp in the Valley of the Ha-ma Ho, West Kirin 34

View of the Ha-ma Ho 38

A Corean Woman washing clothes in the Ha-ma Ho, W. Kirin 38

A Manchurian Trout Stream, West Kirin Forest 48

Camp in the West Kirin Forest 48

The first Crater Lake, West Kirin Forest 56

The Second Crater Lake, looking towards the low side of the crater, West Kirin Forest 56

The Author's Body-guard, who were afraid to accompany him into the Forest, W. Kirin 66

Log-hut and new clearing in the West Kirin Forest 66

Chu Pa Shih, the little hunter with a bunch of Lillies-of-the-Valley 76

Employees outside the Wooden Stockade of Liu's Farm, W. Kirin Forest 76

The Siberian Slipper Orchid 78

The large Slipper Orchid (*Cypripedium macranthum*, Swartz), W. Kirin Forest 82

Trillium obovatum, and other ground growth in the West Kirin Forest 82

In the Valley of the Ha-ma Ho 88

Chinese Settler and his family: note the woman's Manchu headdress and large feet, West Kirin Forest 88
The type of craft used by the Chinese on the Sungari River, and the Hui-fa Ho 98
Chinese crossing the Sungari River in a small, shallow dugout: a very risky performance 98
The Sungari River above Kirin City, with log-rafts floating down 104
The Author in Camp on the banks of the Sungari River, Kirin 112
Chinese Settlers of the Upper Sungari, Kirin 122
A Log-raft about to shoot the Lao-gno Ho Rapids, Upper Sungari 122
Sika Does on a Manchurian Deer Farm, Hua-shu Lin-tzu, Upper Sungari River 132
A Young Tiger from the Ever White Mountains, Kirin 132
A Misty Morning on the Upper Sungari River: log-raft floating down to Kirin City 140
Isolated Column of Basalt called Yen-tung La-tzu, and giving its name to the area, Upper Sungari River, Kirin 142
Columnar Basalt formation on the Upper Sungari, above Kirin City, Kirin 142
The "Mermaid" tied to a log-raft on the Sungari River 144
Sunset on the Yalu River 150
The Russian Break-water at Dalny (Dairen) 152
Bean-cake stacked for export at Antung on the Yalu, S. Manchuria 152
A Corean gentleman at Antung 152
The great Railway Bridge that spans the Yalu River at Antung 164
Chinese Junks speeding up the Yalu River 164
Chinese Junks moored at Antung 164
A Corean Land-owner, Yalu 176
A Chinese Custom's Service Sailor, Yalu 176
Boat Boy with large Catfish 176
A Small Corean Dug-out on the Yalu 180
Large Corean River-craft 180
The Author's Sampan at anchor 180
Rocks and Reflections on the Yalu 196
Low hills of the Yalu Valley 196
The Lao Ta of the Author's boat on the Yalu River 202
A large Chinese River-boat, Yalu 202
View on the Yalu 206

The high granitic peaks standing up above the forest, and the Taoist Priest's Hut and clearing north of I-mien-po 216
In the forest near I-mien-po 216
Naribia and Filatoff with a Manchurian Black Bear shot in the I-mien-po district, N. Kirin 228
Filatoff and Naribia with a Goral shot by the Author in the I-mien-po district, N. Kirin 228
Russian River Steamer stopping for wood fuel, Lower Sungari River 258
Schroder making the passage of a swollen stream in a shallow Dug-out, near Samafalo, N. Kirin 258
Group of Fish-skin Tartars (Goldi) at Kao-tang-er, near Fu-chin Hsien, Lower Sungari 292
Two Goldis in their winter hunting robes of Roedeer skin ... 292
Fish-skin Tartar hut, Kao-tang-er, Lower Sungari 292

CHAPTER I.

The First Capital, Palace, and Tombs of the Earliest Manchu Emperors.

The works of human artifice soon tire
The curious eye; the fountain's sparkling rill,
And gardens, when adorned with human skill,
Reproach the feeble hand, the vain desire.
But, O! the free and wild magnificence
Of Nature, in her lavish hours, doth steal
In admiration silent and intense,
The soul of him, who hath a soul to feel.
The river moving on its ceaseless way,
The verdant reach of meadows fair and green
And the blue hills, that bound the sylvan scene,
These speak of grandeur, that defies decay,—
Proclaim the Eternal Architect on high,
Who stamps on all his works his own eternity.

—*Longfellow.*

CHAPTER I.

The First Capital, Palace, and Tombs of the Earliest Manchu Emperors.

In the course of many years of travel and exploration in the ancient land of China, it has been my good fortune to see much that is wonderful in connection with both the past and the present of its myriad, toiling, brown-skinned inhabitants. One of the chief things that has always struck me has been the profound influence that the earlier Manchu Emperors had upon this country, the ways of its people, their laws, and customs.

Beginning as a small clan of desperate, half savage Tartar bandits, for they could be considered little else, the ancestors of the last ruling dynasty in China, the Manchus, attacked and subdued their neighbours of the forested and hilly regions of Central Manchuria, and bit by bit, during the best part of a century, gradually spread their control over the whole of that country, welding together the numerous warring tribes, and finally making of them a kingdom sufficiently strong to attack and ultimately completely to subdue the great Ming Empire of China.

Once upon the Dragon Throne the earlier Manchu Emperors displayed rare wisdom, and instead of oppressing the people they had conquered, set to work to restore the country in every way to the prosperity that it enjoyed before the internal dissensions, revolts, and civil wars that inevitably become rampant under corrupt and effete rulers—such as the later Mings were, and the Manchus were destined to become—made the conquest of China at the hands of a small but determined people possible.

Kang Hsi and Chien Lung became patrons of literature and art, and to this day the porcelain that was made during their reigns is famous for its fine workmanship and artistic value.

The Chinese *literati*, who pride themselves on their hate of all things foreign to China, to this day revere the names of these illustrious Emperors, while throughout the length and breadth of that country may be found stone tablets that were erected by the latter to perpetuate in durable material some notable picture or

writing, done possibly centuries before, and so in danger of being lost for ever by the crumbling away of the material on which it was originally executed, or to mark the burial place of bygone Emperors or Sages, whose greatness in their day deserved commemoration.

Under the circumstances it is not to be wondered at that I conceived a desire to visit the country whence these great ones came. This desire was further stimulated by the need arising out of my work in North China to investigate the faunas of neighbouring regions; while the thought of the big-game, such as bears, deer, and the great woolly tiger, was only an additional incentive.

Finally in the spring of the year 1913, after having completed an excursion into North Shansi, I decided to pay my long contemplated visit to Manchuria. At about this time I made the acquaintance of Major W. Bowker, D.S.O., (now Lieut. Colonel) of the Somerset Light Infantry, then stationed in Tientsin, who expressed his desire to visit some part of the interior before leaving China on home leave. It was arranged that he should accompany me on my first trip to Manchuria, as this would enable him to see a good deal of interesting country, and, incidentally, might secure for him some sport in the way of bear or wild boar shooting.

To get into the heart of the forest was my idea, and to this end enquiries were made which elicited the fact that one of the easiest and quickest ways in was that *via* Ch'ao-yang Chên in Eastern Fengtien, close to the western border of Kirin Province. Here resided Dr. and Mrs. W. Young, missionary friends of mine, who accorded us a hearty invitation to visit them and make their station our headquarters. This was too good an opportunity to miss, so it was decided to start forthwith for Ch'ao-yang Chên, to reach which place it would be necessary to travel by train from Tientsin to Kai-yuan, and thence by cart to our destination.

Everything having been duly arranged, Major Bowker met me upon the platform of the station, known as Tientsin East, on the morning of May 5th, the day fixed for our departure.

It may be mentioned, in passing, that this station is close to the very spot, where, after the successful operations of the Allied forces in 1900 against the Boxers, British and Russian troops faced each other over a stretch of disputed ground, while in Europe the War clouds gathered and the nations awaited the signal for the clash of arms.

We paid little heed to such memories as these, even if we gave them so much as a passing thought, for, as is usual in China, even in the best regulated Stations, pandemonium broke loose at the approach of the train. Coolies rushed for our baggage, others dived for the doors of the train, while we ourselves were sorely taxed to keep track of our belongings, and, at the same time, make sure of comfortable seats. In less than ten minutes, however, the turmoil died down, the crowd had sorted itself out, while units of that same crowd had deposited us and our belongings in our appointed places, and now stood *en masse* at the door of our *coupe* with outstretched hands demanding *cumshah*, the Pidgin English equivalent for a tip, or *pour bois*. It is interesting to note that the true Chinese word for this is *Chu Ch'ien* which means, literally, "wine money." The spokesman of the motley crew graciously suggested that two dollars would be adequate recompense for the trouble they had been put to, but a stern look and word or two suitable to the occasion made him accept a couple of twenty cent pieces, having received which he asked if there was anything else to be done.

A hurried dash forward to the luggage van satisfied us that our somewhat extensive outfit—tents, provisions, collecting materials and boxes, beds and bedding and what not—was safely on board, while the two servants, a cook and a coolie, with Rastus, my pointer, grinning from a third class compartment window, assured us that they were all right. The guard whistled and waved his green flag, the engine snorted and puffed, and next minute we were steaming out of the station on our way to explore the wilds of Manchuria.

For the first hour we travelled over country of the flattest and most uninteresting nature, though in one place a belated party of native sportsmen hunting hares with falcons caused a slight diversion. This sport is still in vogue in China, but its devotees are more often out for profit than for pleasure. The hare has sadly diminished in the vicinity of Tientsin of late years; but in days gone by it was not uncommon to see a couple of hunters returning from a day's hawking with a dozen or so hares hanging from long poles over their shoulders. And fine animals they were too, such as could give greyhounds a good, hard run in the days when European residents in Tientsin used to go in for coursing.

On passing Tang-ku, at the mouth of the Pei Ho, on which river Tientsin stands, one caught glimpses of open water, flooded lands, whereon might be seen some few late stragglers of the duck family, such as yellow nibs or Swinhoe's ducks and the little

summer teal or garganey, both of which species breed in the district. There were also many gulls and terns flying over these wastes.

At Tang-ku there is a hotel for the convenience of passengers from the steamers, which frequently get delayed at the bar outside Ta-ku. The latter place is famous in recent history for the storming of the forts by the British Bluejackets in 1900, prior to the relief of Tientsin and Peking.

Mention should be made of the extensive salt procuring industry which is carried on in the district round the mouth of the river. Sea water is carried inland by means of canals, and let out into small fields enclosed by low mud dikes. Here it is allowed to evaporate, leaving a deposit of salt, which is scraped up. The most interesting feature in this industry is the means used to pump the salt water from one level to another. The power for this operation is derived from the wind, large wheels, placed horizontally, being driven by a number of sails, identical in pattern with those used on Chinese junks and *sampans*. These sails are so set that each in turn comes into position, catches the wind, does its turn and swings away again in its circular course. By this means the wheel is driven at a considerable speed, and, being connected by cogs to an endless wooden chain, with small compartments for carrying water, running upon two wooden drums, maintains a continuous flow of water from the lower channel to the higher. The salt is stacked in huge mounds, and, being government property, is guarded by soldiers or armed police.

From Tang-ku to Tang Shan (Tongshan) the railway continues over flat country, presenting little enough to the inquisitive eye, but one's interest is aroused when one learns that the villages one sees between the railway and the sea are, in reality, the homes of pirates of the real old-fashioned sort, whose presence in the China seas made trading so hazardous in the days of the China Tea Clippers. With the advent of the steamer, we hear very little of these pirates, but they are there, nevertheless, though their activities are confined to the capture and looting of Chinese junks, which pass up and down the coasts, often carrying rich cargoes. It is said that fine silks and satins may be purchased at extremely low prices in these villages, while other articles of trade from the South, such as dried sharks' fins, bêche-de-mer and cuttle fish, spices and preserved fruit are to be had for a song.

On nearing Tongshan we viewed with satisfaction the work of aforestation carried out by the Kailan Mining Company. If

planting is continued at the same rate as heretofore there should be extensive woods in this district before long, which one would like to see stocked with game of sorts not found elsewhere in the vicinity. It should not be difficult to introduce pheasants, for instance, as a supply of these birds could easily be secured from the mountainous country to the north. As, however, the trees have been planted with the express purpose of supplying the mines at Tongshan with props, and hardly from public spirited motives, it is doubtful if the Company in question will see its way to supplying game birds for local sportsmen. But the success with which the planting of trees along the railway and in other areas has met, and the enormous value of the timber so produced, not to mention the improvement they make to the otherwise monotonous plain, and other more substantial benefits, might serve as a good object lesson to the Chinese Government, whose neglect in legislating for the preservation of the North China timber reserves has resulted in such catastrophes as the silting up of rivers and consequent flooding of large areas of country, as well as the present day shortage of good timber in the country.

Tongshan, being the workshop centre for the Peking-Mukden Railway, as well as having several coal mines, is a busy engineering town, and, as such, was too reminiscent of the civilization we were trying to escape to attract more than passing attention. The place was useful to us in one respect, however, for we bought our lunch there. This consisted of some magnificent prawns, each the size of a small lobster, some good white bread, a tin of pine-apple and some Japanese beer. The train on which we had been forced to travel, owing to the nature and quantity of our baggage, did not boast a dining car, which accounts for our having to buy our food as we went.

From Tongshan on the country presented a more pleasing aspect by reason of the existence of low hills, but it was not till we were crossing the Lan River, several stations further on, that we got anything like a really pretty view. Here the low hills are higher and slightly wooded, while the river, winding down a picturesque valley, with the quaint flat-bottomed boats that lie moored to its banks, or dance upon its surface, complete a very pleasing picture. This river, it appears, has its origin in the vicinity of Dolonor (Lama Miao) in Mongolia, whence, flowing eastward and then southward, it passes Jehol, being navigable for shallow draft boats from that point to the sea.

Next we passed more hills, scarred with quarries, and finally, as we drew near the end of the day's run, passed the stations of Pei-tai Ho and *T'ang Ho, the latter the station for Ch'in-wang tao, a well-known and important sea-port, and, after catching refreshing glimpses of the sea itself, steamed into Shan-hai Kuan.

When we had engaged rooms at the local hotel, and seen our baggage safely deposited there, we went for a stroll into the town of Shan-hai Kuan to view certain ancient relics mentioned in the Major's guide book.

Shan-hai Kuan (lit: Mountain-Sea Pass) is known in Chinese history as a place of great strategic importance during the Ming dynasty, when the Manchus began to threaten the Chinese Empire with invasion. Indeed, it seems likely that but for the fact that Wu San Kuei, a famous Chinese General, who held this position with a powerful army during those troublous times, invited the aid of the Manchu Prince Regent, Durgun by name, to suppress a rebel chief, named Li, who had actually captured Peking, the Manchus would never have succeeded in establishing themselves upon the Imperial throne of China. Such incursions as they had already made into Chinese territory had been carried out by traversing Mongolian territory far to the north of Shan-hai Kuan, and, making a wide detour, by swooping down upon their prey from the north. In this way they had penetrated as far as Shantung, but it will easily be seen that with the pass by the sea closed to them, and their only road into China lying through the territory of a neighbouring kingdom, whose ruler might at any time decide to cut off their retreat, the conquest of China was out of the question.

With the natural protection of rough, precipitous mountains running down almost to the sea, and only a narrow strip of well-fortified flat-land to defend, it did not need a very strong army to make the pass impregnable.

The town itself lies at the foot of the spur of mountains. The walls have a very old appearance, as well they may. There are extensive earth works on the eastern side, where the end of the Great Wall runs down to the sea-shore. A monument stands on the wall of the town at the south-eastern corner, while a stone tablet with a Chinese inscription may be seen in the tower over the East Gate.

*The railway now goes direct to Ch'in-wang-tao.

The streets are roughly paved, narrow and dirty, with a few curio shops scattered about, which display their wares—a snare for the tourist. The dwellings are meagre and the inhabitants poor.

Leaving Shan-hai Kuan by an early train the following morning we entered Manchurian territory, and were borne at first eastward and then northward towards Mukden. The country passed through was rolling, with here and there low hills and outcrops of rock. In places it was well studded with willows and elm-shrubs, but for the most part bare brown earth interspersed with patches of course and scanty grass prevailed. Sometimes the line emerged upon broad flats like the Chihli plains.

We passed the important towns of Ning-yuan, Chin-chou Fu, K'ou-pan-tzü and Hsin-min Fu. Of these the first is famous for having held out against the rising Manchu power for many decades. Both Nurhachu and T'ai Tsung made repeated attacks upon this town, but, failing to take it, dared not push on leaving it to menace their line of communication, or to cut off their retreat in case of disaster.

Without the occurrence of anything of particular interest, Mukden was reached, and we put up at the Astor House Hotel. Though completely put in the shade by the magnificent Yamato Hotel, erected by the Japanese over the station buildings, this unpretentious and homely edifice is much more central, and allows of greater facilities for visiting the different places of interest in and around this historical town, besides which it must inevitably form a greater attraction to those who are trying to escape the newness of the Occident. It lies inside the city walls, within easy walking distance of the Imperial Palace.

We decided to allow one day for visiting the latter and the tombs of some of the earlier Ch'ing Emperors.

After a much needed night's rest we set out on a tour of inspection. Passes having been secured to visit the Palace, we first turned our steps in that direction, and, arriving at the gates, were admitted after some delay, caused by the keeper having to go to the local magistracy to get the keys.

We entered a large walled-in compound filled with typically Chinese buildings, where expansive paved courts, surrounded by lofty rooms, rose in a series to the great upper Hall of State or Throne Room. Each court was divided from the next by a great transit hall. The roofs of all were of yellow porcelain tiles, the handsomely carved woodwork and massive beams and pillars supporting them, richly painted and lacquered. Having traversed the

different courts and viewed the great Hall of State, the *sanctum sanctorum*, we returned to the outer courts, where we were shewn into one of the side halls. Here were displayed some interesting relics. First the ceremonial robe of the great Ch'ien Lung, one of the most famous of the Manchu Emperors, was carefully laid out for our inspection. This magnificent garment was of yellow silk throughout, decorated with the Imperial Dragon design. The embroidery was entirely done in seed-pearls and gold thread, and was a genuine work of art. The war helmet of the same Emperor as well as his saddle and sword were also shewn us, each decorated with much gold work and encrusted with gems.

Besides these items of interest there were ancient paintings, cunningly wrought bronzes, gold ornaments, beautifully cut jade and crystal vases, rare porcelains, and many other priceless treasures, which, though the keeper was anxious to show us, we had little time to look at.

In another large, double-storied hall we were shewn a collection of K'ang Hsi and Ch'ien Lung porcelain, that must have been unique. In the numerous glass cases, which crowded both floors, dozens and dozens of vases, plates, basins, bowls and cups of all sizes, shapes and colours were displayed. Anyone of the pieces, if genuine and offered for sale, would have fetched a high price. It was said that most of the pieces in the collection were frauds, having been substituted from time to time for the genuine ones by dishonest keepers, but it would be hard to credit this statement, for one wonders where such a supply of frauds of so perfect a quality could have come from, for the pieces of different designs occurred, not in ones and twos, but in sets of dozens, some of the plates, bowls and cups, which used to form the Imperial dinner service running into hundreds. Of the vases and more ornamental pieces we were told that in the reigns of the Emperors in which they were made, the potteries had to furnish the Palace with so many of each new design, and that those we saw had been there since they were first made. For the sake of the uninitiated it may be explained that K'ang Hsi and Ch'ien Lung porcelain occupies in China very much the position that Old Worcester occupies in the ceramic art of England, so that the value of the collection we viewed may be imagined.

I do not know what has become of these valuable curios since our visit to the palace in 1913, but believe that the collection was transferred to Peking. It would be rather surprising if, under the circumstances, it has remained complete, especially as such articles

as it contained are so eagerly sought after by tourists, as well a dealers, who supply the European and American markets.

Having gone the round of the palace, we next visited the Industrial Museum, but this was decidedly disappointing. The display of modern tin-ware, pewter candlesticks, crude-coloured fabrics and cheap furniture, compared very unfavourably with the magnificent works of art we had just seen. One could not help wondering if the advent of our Western Civilization has really benefitted this people after all.

The chief item of interest to me was an enormous tiger's skin, which was said to have come from the Ever White Mountain district. It was the largest tiger's skin I have ever seen, and when new must have been worth a good deal, as the fur was thick and long and splendidly marked.

In the afternoon we drove in a *droski* (a relic of the days of Russian occupation) out to the Chao Ling, which is situated about three miles to the north-west of the city.

The Chao Ling and Fu Ling are two large walled-in burying grounds, which together form the Pei Ling, or Northern Tombs, of the Manchu Emperors. We had not time to visit both places, but were told that the Chao Ling was the better, and so chose it. The drive, after we left behind the precincts of the town, was through beautiful country. As we neared the tombs, wooded hills confronted us, while on either side of the road greensward, dotted with hawthorn and dwarf elms, stretched away, finally ending in osier beds and orchid and buttercup besprinkled swamps, which looked just right for snipe.

Following a paved causeway we crossed a couple of stone bridges, the massive copings of which had long since fallen away, and finally came before the great gates which guard the only entrance into the sacred grounds.

To right and left high red walls with yellow-tiled tops disappeared into the woods, which here grew densely in a kind of living palisade.

On showing our passes we were conducted into the grounds, and up a long paved avenue, lined with lofty pines, through whose topmost branches the wind soughed its mournful song. Presently huge stone animals appeared on either hand, forming, as it were, a guard of honour for the devout worshipper at the tombs of these ancestral Ch'ing Emperors. A pair of elephants flanked us, next two camels, a pair of horses and so on up the avenue till we reached a T'ing-tsü (a kind of kiosk), in which stands a huge monolith,

erected to the sacred memory of T'ai Tsung, Wên Huang-ti, whose mortal remains were deposited, centuries ago, beneath a huge mound lying within a second and third enclosure beyond the *T'ing-tzü*. Those of his wife lie to one side.

T'ai Tsung was the fourth son of Nurhachu, the founder of the Manchu dynasty. During the latter's life time he displayed a very warlike spirit, and ably assisted his father in his numerous conflicts with the Chinese. After Nurhachu's death, he continued the campaign, but failing to take Ning-yuan, made friends with the Kortsin Mongols, and, using their country as a highway into North China, raided, pillaged, and harrassed the provinces of Shansi, Chihli, and Shantung, but always failed to take Peking, the capital of the Ming Empire. He died a few years before that city finally fell into the hands of the Manchus, who, as already stated, were invited in by Wu San Kuei to assist in the suppression of the rebel chief Li. There is something very romantic about the history of these picturesque warriors, and a sort of glamour surrounds their memories. The deeds they did, though savage and cruel, were, nevertheless, feats of great daring and enterprise. They fought their battles and carried out their desperate raids at enormous distances from their homes. Their courage must have been superb and their endurance immense, while one marvels at their capacity to hold in control the hordes of savages they ruled. Their remains lie in these peaceful solitudes, not so far from the capital they founded, and the palaces they built, and year by year they are worshipped as gods by multitudes who still hold their memories in reverence and awe. They made their indelible mark in history, and the progeny of the people they conquered and ruled, worship them to-day. Can any of the illustrious Monarchs of Europe boast a tomb so grand as theirs, or so profound a respect from their countrymen as to find its expression in actual worship?

On May 8th we left Mukden by the north-bound train early in the morning, and three hours later got out at the station for Kai-yuan, another town famous in history as having held out against Nurhachu. Over two centuries later it was occupied in turn by the Russians and Japanese during the Russo-Japanese war. Since the early days, when it held out so bravely against the Manchus, there must have been a sore decline in its inhabitants, for we hear that a few years ago the whole town was held up, and its merchants and shopkeepers robbed, by a small band of twelve robbers!

The station is situated about three miles to the south of the city, and is the centre of a growing cluster of houses, shops, inns

The Tomb of the Illustrious Emperor Kang Hsi, in the Tung Ling, North-east Chihli.

The Great Transit Hall of the Mausoleum of the late Empress Dowager, the last capable Manchu ruler. Tung Ling, North-east Chihli.

and hotels, which have evidently sprung up since the advent of the railway.

As we were anxious to push on, we set about the business of engaging carts for our journey to Ch'ao-yang Chên. Now, hiring carts for a journey in China is a delicate matter, and one requiring very careful handling, unless time and money are no object. But in our case both were important factors, and so we had to proceed craftily.

We took all our belongings to an inn, and, engaging a room, ordered a meal. As I expected the usual crowd of loafers gathered around us, and began asking questions, to which I replied always endeavouring to convey the impression that we were going nowhere in particular and were in no hurry about it. To all this byplay the innkeeper appeared to pay no attention, but when, as was inevitable, the question of carts for hire arose he chipped in with the gratuitous information, addressed to the crowd at large, that there were none to be had. I told the crowd that it did not matter, that we could wait a few days, in which case I should seek another hotel. Gradually, however, from talking at each other, the innkeeper and I drifted into direct communication, the upshot of our conversation being that a price for cart hire was quoted, and mine host stepped into the adjoining room, where were waiting a few dozen carters, and shouted out, "Three carts wanted for Ch'ao-yang Chên to carry foreign goods at sixteen dollars each." Not one of the carters paid the slightest attention, each going on with his meal and conversation, till one burly ruffian shot over his shoulder an enquiry as to the weight each cart was to carry.

Then ensued a long discussion and much lifting of baggage on the part of the inn employees. The conclusions arrived at all put the gross weight of our outfit far above what it really was. The whole company of carters guffawed contemptuously, and turned their backs upon the proceedings, saying that it was a twenty-dollar-per-cart job. Nor could they be pursuaded to come down in their price.

Half an hour went by and there was no change, though the innkeeper, on my behalf, had gone up to nineteen dollars. At last, seeing that they intended to force me up to their own price I decided to play my last card. I had taken the precaution to secure from the Postmaster at Mukden, an old friend of mine, a few of his cards, and I now went to the local Chinese Postmaster, a bright young fellow who spoke English, and presenting one of the cards, told him of my difficulty. He assured me that he could

secure me carts at a reasonable figure, and, after sipping tea in the customary Chinese manner, I bade him good day and returned to the inn. In less than half an hour three carters turned up, and expressed their willingness to carry us and our goods to our destination; and there and then under the very noses of the other carters and the crestfallen innkeeper, we bargained for and finally engaged the new comers for thirteen dollars per cart for the journey, six dollars being paid out at once to seal the bargain.

I felt a little sorry for the innkeeper, because it meant that a rival inn would get the "commission" from the engaged carters, but he had needed a lesson in that he had failed to appreciate that there are limits to a white man's pocket and patience. It might be argued that the carters and not the innkeeper were the real culprits, but this was not the case, for in such matters the innkeeper calls the tune and the carters play up to him. He had overdone it, that was all.

The relations that exist between innkeepers on the one hand and carters and muleteers on the other are as follows. The carters and muleteers usually own the carts and animals, but keep running accounts at some inn at either end of the road over which they usually travel, and possibly at an inn or two *en route*. The innkeeper secures business for them, feeds them and their mules, but usually takes the greater part of the money advanced to them by their passengers before starting on the journey. The object, then, of the carter is to get as much on credit from the innkeeper as he can, that of the innkeeper to get as much actual coin as is possible, while both combine to fleece the traveller. Thus one frequently finds, that, after having been paid half the money agreed upon for the journey at the start, the carter or muleteer has not a cent to go on with by the second or third day out. Naturally one refuses to dole out more, with the result that all friendly relations cease, and the rest of the journey is one continuous fight. The wise man interviews the innkeeper at the start, pays him one quarter of the total hire, reserving the second quarter to give to the carter not less than one day's march out, and the second half of the total sum till the end of the journey.

By three o'clock in the afternoon our carts were packed, and, after settling the score at the inn, we left the village, setting out in an easterly direction across flat country. By six we had reached a small village named Ta-yao, situated at the mouth of the Ch'ing valley, where we camped for the night, thanking the gods that be that at last we were clear of railways, time-tables and all such abominations.

CHAPTER II.

The Ch'ing Valley and Beyond.

The brightest hour of unborn Spring.

. . . . . .

Bending from Heaven, in azure mirth,
It kiss'd the forehead of the earth,
And smiled upon the silent sea,
And bade the frozen streams be free,
And waked to music all their fountains,
And breathed upon the frozen mountains,
And like a prophetess of May

. . . . . .

Strew'd flowers upon the barren way,

—*Shelley.*

CHAPTER II.

The Ch'ing Valley and Beyond.

Imagine a valley in the West Country of old England, with the hawthorn in bloom, and the thrushes in full song, the lowing cattle leaving their byres for the grassy meadows, and the farmers with their teams starting for the fields with plough or harrow, and you will have a very fair picture of the scene that broke upon us as we set out next morning on our way up the valley of the Ch'ing Ho.

The hawthorn was not the may of our English fields, but the edible haw of North China, and in place of the thrushes the bushes were filled with yellow-breasted buntings, whose chatter and song was rivalled only by that of the reed-warblers in the osier beds down by the winding stream of crystal clear water, that found its way out on to the plain below. The farmers instead of wearing smocks and heavy boots, were clad in the eternal blue and went bare-footed. The whole picture was one of peaceful rural beauty, such as might gladden the eye of any passer by, however dead his soul or engrossed his mind.

But we had nothing to worry us, and were in the mood to enjoy to the full the pleasant day's ramble through the country.

Apart from the rustic beauty of the valley, with its ploughed fields and smiling farmsteads, there was the added attraction of wilder country close at hand. A lift of the eye revealed the fact that the slopes on either side of the valley, at first gentle and rounded, with open, grassy plots dotted o'er with scrub-oak and crab-apple, were more rugged ahead of us, and soon, as we journeyed, we found them growing more and more rocky and broken, till, at last, they assumed the form of jagged needles and spurs, towering above deep, pine-filled chasms.

The valley itself grew more wooded, but there was still too much cultivation and too many farmsteads to tempt us to stop over to do any collecting. We wanted to get into the real wilds, where the effects of man's occupation were still unfelt.

The natives informed us that in the side valleys and ravines roe-deer were still to be had, while in winter the main valley itself swarmed with pheasants and partridges. But it was not the season for game, so we kept on. There were still some belated ducks to be seen on the stream, but as these were always in pairs, and belonged to species that are known to breed as far south as this, it was obvious that they were mating, so they, too, were left alone. Once or twice we but up some partridges, as we skirted the bases of the more rocky slopes. Other bird-life noticed consisted of swallows, martens, larks, wagtails, hawks of various kinds, and a few warblers and flycatchers. We were a little late for the great majority of migratory birds, which had just passed northward.

Of the flora of this valley it is not easy to write temperately: it was so extensive and varied. Evidently some very large timber had once clothed the slopes, to judge from an occasional stump standing, stark and gnarled, a grim reminder of the past. Chief among the trees now flourishing were elms, willows, maples and crab-apples, with a few poplars and walnuts scattered between. The chief shrubs were scrub-oak, the edible hawthorn, different kinds of bramble and rose, and, along the valley bottom, willows and osiers in thick coverts. Of the flowering herbs the most noticeable at this time of year were a purple anemone, an early clematis and the ubiquitous violet. Little else was in bloom, as yet the glory of the Manchurian flora had not showed itself. Still the whole scene was loveliness itself, and made travelling seem light and easy.

So far the roads—the dreaded Manchurian roads—had been all that could be desired. The three carts went along at a good rate, without delay or hindrance, while we walked, the clear spring air lending us a vigour and freshness that would not brook a precarious seat upon the shafts of the bumping vehicles, demanding, instead, the exercise of limb and lung.

As we neared the end of our day's run, however, the roads began to get wet and soft, and presently the leading cart stuck in a mud-hole. The frantic efforts of the mules to move it were of little avail, and finally one poor animal collapsed with the strain. The lead mules from one of the other carts were taken out and hitched on to the cart in difficulties, and slowly the awkward contrivance was dragged out of the mud. But the mule that had collapsed could not rise. It had evidently been ailing, and the severe strain just gone through had finished it. After being bled it was just able to rise and stagger as far as the inn, where it lay

Car Cart in difficulties on the way to Chao-yang Chên.

The Author's Cart overturned in a swamp in the Ha-ma Ho Valley, W. Kirin.

down to die. This turned out to be a most unfortunate occurrence, for we were just entering the zone of bad roads, and it meant that the first cart had to travel with only one lead mule, which subsequently was the cause of much delay and endless trouble. The inn where we stopped for the night was known as Tsa-tzü-kou, and consisted of an isolated set of buildings three miles away from any village. It forms the regular winter stage of 125 *li* (about 40 miles) from Kai-yuan or the station. As a matter of fact we had made two stages of it, doing 25 *li* the first afternoon and 100 *li* this day.

We were shown into a long, low building, consisting of but two rooms, a small one for the innkeeper and his family and a large one for the guests. Down either side of the latter extended a high *kang* (brick dais, or bed), which was heated by a fire fed from the outside with dried horse manure and stable refuse of all kinds. Down the aisle between the *kangs* stretched a row of long tables and benches, where travellers of the lower class and the carters had their meals. The more important guests, such as ourselves, were given small short-legged tables on the *kangs* themselves, at which we squatted in great discomfort. We would fain have stretched our legs at the tables in the aisle, but they were over-crowded as it was and the guests had to fed in relays. In the matter of food we were agreeably surprised at the quality of what was placed before us. Excellent rice with fried fish, scrambled eggs, and minced pork were served in nice clean basins. We found that because we were travelling with what are known as Peking carts we were charged more than if we had been using the large open carts, for we were considered as first class passengers. Meals were served *table d'hote*, which is contrary to the custom in the inns in China proper. Those who did not care to pay the rather high charge, must provide for themselves, only in that case a small charge for accommodation would be made.

When we marked off the amount of room required for our camp-beds and other effects, a general murmur of dissent arose from the other guests, and the innkeeper hastened along to see what was the matter. He was aghast at the unheard of way we had spread ourselves, and took pains to explain that each guest was only allowed a narrow strip of two to three feet, sufficient for his bed-roll and no more. This did not meet with our ideas of hygiene and comfort, so we argued the point, in the end closing in a little as a concession to the other guests, and promising to pay for the extra space.

In the yard the mules and ponies were tethered to posts and cross beams in the open, with wooden troughs for mangers. There were no stables at all, not so much as a rough shed to afford the wretched animals shelter from the inclemencies of the weather. In winter when the temperature stands at thirty degrees below zero, and in summer when the thunder clouds pour down their inch or so of rain, it is the same. Little wonder, then, that they die like flies. They are fed on bean cake, an over rich and very heating food, which appears to bring on inflammation and blindness. There is no place in North China or the surrounding countries where the death rate of stock is so heavy as in Manchuria. On our journey we constantly passed dead or dying animals left upon the highway or dragged a little way into the fields. It was a common sight, even in the case of well fed and otherwise healthy animals, to see blood commence to ooze through the skin in large patches on their shoulders, flanks or rumps. Sometimes the blood would stop oozing after an hour or so, but more often it resulted in a nasty sore. The carters said it paid better to work their animals for all they were worth, and replace them by new ones when they died, than to take care of them and doctor them when they got sick. We came to the conclusion that it was the lack of shelter and dry places to sleep in, coupled with the over-heating food that made the poor animals unfit for the heavy strain of the bad roads. It also seemed likely that there was some virulent disease such as anthrax prevalent in the country.

From Tsa-tzü-kou onward the roads were execrable. I had never experienced anything to equal them, and, as I look back upon that journey, find it difficult to convey a true impression of them. We had not gone more than a mile when we heard a great commotion ahead of us. It turned out that a string of carts that had left the inn fully an hour before we did, now stood on the near side of what appeared to be a lake of muddy water. In the middle, up to its axles and with a heavy list to one side, was the leading cart, attached to which were about ten mules, each striving to the utmost with head down and back arched, while the drivers of all the carts stood round flogging the straining beasts with their long whips and shouting at the tops of their voice. The cart remained immovable, and presently the drivers, after roundly cursing their unlucky companion for having driven his cart so carelessly as to get stuck in the morass, untied their mules, reharnessed them to their own carts, and tried to find a better way across the obstacle.

At last the driver of the second cart got his mules into place, and with a yell and a flourish of his whip, made a dash for it. Through the slough they went at a mad pace, the heavily laden vehicle rocking from side to side, past the first cart with a swing, and then, just as hard ground was almost within reach, the shaft mule lost its footing, fell, and was dragged on its nose through the mire. Slowly the cart came to a standstill and sank back with a gurgle, finally settling down into a hopeless position, which effectually blocked the road to all other traffic.

The remaining carts turned off the road into a ploughed field, through which they tried to make a detour, but their path was soon blocked by angry husbandmen armed with scythes and spades, who had been watching for this very move on the part of the carters. If they allowed them to pass it would mean that a large part of their field would become a part of the high road. The carters were angry, the farmers desperate, and things looked ugly, but in the end the former gave way and returned to the road to solve the problem of crossing the morass.

For us there remained only the stony river-bed, with its steep banks and dense osier beds. All the carters laughed at the idea of attempting to find a way through this, but I insisted on our men trying it, and after a long detour and much winding about, with a few sharp descents and climbs, we came out upon the high road once more at a point well beyond the bad bit, where we could still see our fellow travellers trying to get the carts out of the mud-hole.

Within a few miles we were into bad places again, and our leading cart stuck badly. It had to be unloaded, and the mules of the other carts attached, before it could be extricated. Thus it continued all day, but we made fairly good progress, and by nightfall had done about twenty-two miles, putting up at a small hamlet named Wang-chia-kou.

The scenery during the day's run was much the same as that of the preceding day. One of the chief items of interest to the naturalist was the great numbers of little yellow-breasted buntings (*Emberiza aureola*) to be seen. These beautiful little birds, with their rich chocolate-brown upper parts and bright yellow breasts, marked with a broad black band, were seen in every bush and tree. Sometimes their loud songs and merry chirping bid fair to drown all other sound. They were continually on the move, passing across the valley from south to north in their migration. I remember once seeing the same species in great numbers on the

rich grass-lands of Southern Mongolia, as early as August 8th, which might mean that the species breeds somewhere in that neighbourhood, though records of other explorers show that it also breeds in Siberia and Northern Manchuria.

Another interesting phenomenon we came across was a deep and wide crevice in a rocky cliff, which was simply swarming with lady birds (*Coccinella variabilis*), the common species of these parts. The little beetles crowded upon the sides of the crevice, in places to a depth of fully half an inch, while their dead lay upon the ground at the bottom and round the mouth to a depth of several inches. The rock surface, where exposed, was covered with a black substance, probably the excreta of the insects. I could discover no reason for this peculiar phenomenon, though I came across a similar occurrence more than once in my subsequent wanderings in Manchuria.

We saw some Mandarin teal (*Aex galericulata*) upon the stream, as well as some falcated teal (*Eunetta falcata*) and yellow-nib ducks (*Anas zonorhynchus*). As I am dealing more fully with wild fowl in a special chapter these birds need only be noticed here in passing. As already stated we left them alone, for they were undoubtedly mating and about to breed, if they had not begun these operations already.

Towards noon on the third day out, the Ch'ing valley narrowed down, and we began to ascend rapidly toward a pass at its head. Here we passed a village of potters. Every man and boy in the place was engaged in the manufacture of large earthen jars. Some dug blue clay of a coarse grade from pits in the hill-side; others pulverized it in huge stone mills of a primitive type, or kneaded it into great lumps ready for the hands of the master workmen, who stood at low, heavily built, revolving stools, and patted and thumped it into shape.

As one watched the vigorous actions of the potters, one lost count of time and space, and seemed to stand with old Khayyam in the market place at dusk of day, and to hear the wet clay, with its all obliterated tongue murmer 'Gently, Brother, gently pray!' Yes, there was the clay population standing round in rows, there that one at whom folk sneered for leaning all awry—each at the mercy of the potter, yet each made to fulfil some useful function, not merely to be idly dashed to pieces in wanton destruction. There was the whole scene on which the Persian poet gazed centuries ago, and upon which he moralized, as all Orientals of the cultured classes will.

On the road below a stream of peasants going to the nearest market town trickled past. A cart was being laden with huge water jars to be taken away for sale. Outside the low doors of their mud hovels the women of the village sat mending garments, or spinning thread, as they shouted scraps of gossip across to their neighbours; while naked brown babies played in the dust with the village dogs and pigs.

Here, in this little corner of what might be considered a 'white man's land,' the East held sway. Each item of humanity was as much an integral part of the Orient as if it had been in the streets of Peking or Calcutta; and so it will always be. Wherever the Chinese go they will carry with them the sounds, smells, sights—I had almost said the very glamour itself—of the eternal, unchanging East. Only there is little glamour about a Chinese coolie.

Leaving these fascinating scenes, we continued our journey. At the top of the pass a tea booth supplied us with a cup of the fragrant beverage, but we did not stop long, for it was found necessary to make a big detour to the south, keeping to the tops of the ridges of rounded hills in order to avoid the sloughs and bogs of the valley, through which the main road passed. Presently a most appalling stench assailed our nostrils, and looking round, we discovered its origin in some newly made coffins, which stood uncovered upon a little grassy knoll a few yards away. In answer to our questions regarding this unpleasant sight and smell, one of the carters told us that the dead were never buried in this country, but that the coffins were always allowed to remain above ground till they fell to pieces or were broken open by wolves or dogs and their gruesome contents devoured. That those we had just passed emitted so horrible an odour was due to the fact that they contained last winter's corpses, which were just thawing out in the genial warmth of spring. Subsequently we noticed coffins all along the ridges and upon every prominent hill top.

Our efforts to escape the heavy roads of the valley were rewarded with but little success in the matter of accelerated progress, for it commenced to rain, and we were glad to take shelter at a small wayside inn. As it was we had been forced to cross two side valleys, at the bottoms of which swamps and bogs had all but brought us to grief.

Next day we descended into the main valley, where we experienced a more than usually trying time in the bogs before we reached the market town of Shan-chêng-tzu where we decided to stop for the rest of the day.

Among the most striking features of this and many other similarly situated towns in Manchuria are their suburbs of corpses, housed in coffins and left in the open above ground. Hundreds of the gruesome objects covered the flats on all sides of the town, commencing under the very walls of the outermost houses, and continuing for a distance of half a mile or more into the surrounding fields The stench was indescribable. Gaunt dogs wandered about in search of some half devoured human body, torn from its last resting place by their more powerful cousins, the wolves.

Once past this grizzly barrier, however, we were immediately inside a busy, active centre of commerce, throbbing with life and action. A fair was in full progress, and the wide streets were thronged with country folk, while the side walks were usurped by booths and stalls, where were displayed a medley of wares of all descriptions, and from all countries. Tenpenny nails and other hardware from the smoking factories of Great Britain, tin toys from France, cheap clocks from Germany, cheaper tooth-pastes and scented soaps from Japan, spices from the tropical islands, and canned goods from across the Pacific might be seen on every hand. The great tobacco and oil monopolies were represented in this far off Manchurian town, while a native agent perched on a platform gave practical as well as verbal demonstrations of the use of that most useful of all household implements, the sewing machine.

Native wares occupied a large proportion of the open spaces. Chief amongst these were dried fish, farming implements, clothing of the most fashionable cut, leather shoes called *Wula*, and harness of every description. On a money changer's table one noticed amongst other coins a British florin, a few Russian roubles, some Japanese yen, a Mexican dollar or two, and the various coins in circulation in China. Strange to say the most highly valued coin was the Hongkong dollar, which they called *Tsan-jên-er* (lit:— standing man) from the figure of Britannia on the face of it. Though nominally of the same value as other dollars in circulation in China, this coin stood at a premium of ten per cent. in purchasing value. In one of the large general stores, where we tried to purchase some mosquito-netting, we saw several large piles of English newspapers dated a year or two back. These were being sold at a low rate per catty (1⅓ lb.) to the natives who used them as wallpaper. Indeed, at the inns along the road one never need be hard up for literature, for one was sure to be able to find something exciting in the way of police news stuck upon the wall beside one's bed. One wonders what Mrs. Brown, who beat her too festive husband on his

home-coming at 3.00 a.m., and was bound over to keep the peace, would think if she knew that her exploits had been read by a travelling Chinese student away in the wilds of Manchuria. One wonders more what opinion that same student would have of the English at home after reading about Mrs. Brown! Then, again, one wonders who were the enterprising merchants who shipped old English newspapers by the ton to these far away markets, and whether it was a profitable business. Apart from the effect of this "literature" upon the awakening mind of New China, it speaks volumes for the advance in trade facilities, when the unsold copies of British journals can be gathered together, shipped across the world, and sold, presumably, at a profit, to paper the walls of mud huts in the interior of Manchuria.

From Shan-ch'eng-tzu we continued next day down the valley, encountering, if possible, even worse roads than those we had already experienced. In one place we saw a cart stuck so fast that thirteen mules could not extricate it till the greater part of its load had been removed. We came to long stretches of what might be called quaking bog. This is a bog of very soft, sticky ooze, covered with a crust of hardened mud. As one passes over it, it goes up and down, quivering like jelly. It will bear a weight according to the thickness of its crust, but woe betide the man or animal that breaks through. He will find himself held as firmly as though by a steel trap. As for carts, their weight frequently causes the wheels to cut through the crust, and then they stick fast. It is impossible to gauge the strength of the crust, so that crossing is usually a hazardous undertaking. The only chance of success is to take the obstacle at a run, but it not infrequently happens that the small, sharp hoofs of one of the mules breaks through the crust, thus causing the unfortunate animal to fall headlong, bringing confusion amongst the rest of the team, while the sudden stop causes the wheels to sink up to their axles. There the cart is likely to remain till special means have been taken to get it out of the bog. In the course of our journey we were caught thus twice.

By now we were passing through well-cultivated farm land, intersected by the usual willow-lined streams that debouched from the sides of the wide valley, joining up to form the Liu Ho (Willow River). The whole country was dotted with wattle-and-daub farmsteads, though in places where prosperity had attended the efforts of the settlers, more pretentious buildings of brick had been erected. These were usually surrounded by high walls, with watch towers

attached—a precaution against *hunghutzu* (bandits), who are a curse to the country side, and about whom more in a later chapter.

Finally, after passing another large market town named Hai-lung Ch'êng, we reached Ch'ao-yang Chên on the seventh day from leaving the railway, and, finding our way to the premises of the Scottish Presbyterian Mission, received a warm welcome from my friends Dr. and Mrs. Young.

CHAPTER III.

The Frog River and Outskirts of the Forest.

From the merry rippling stream
Each bursting bubble yields
    A crystal voice,
Which, caught by fragrant breeze
And wafted to the elfin ear,
    Creates a wondrous spell.

—*Auon.*

CHAPTER III.

The Frog River and Outskirts of the Forest.

The various kinds of streams that occur in a country are always a matter of interest and importance to the traveller. Manchuria is a land of streams. In the mountainous areas of the South-west the streams partake of the nature of those of North China generally. They usually go storming down the rough, boulder-strewn valleys, where scarcely a sign of vegetation occurs along their uncertain banks, to emerge, after a troublous existence, upon the flat lands. Here they become turbid and yellow, treacherous with quicksands, and frothing angrily, as they eat away the terraced wheat-fields, only to build them up again in the autumnal freshets and floods with rich deposits of silt. Frequently, where of a permanent nature, they originate, not in a little silvery trickle at the head of some fern-covered dingle, but in a mighty gush of crystal clear water, pouring out of some cleft or unconformity in the strata, or bubbling up from some deep seated fault. They form a harmonious part of their surroundings, the massive, towering spurs of granite or marble, flanked with rugged ridges, partially clothed with sombre pines and spruce.

In the distant province of Shensi where the streams are more permanent, they are often of extreme beauty as they plash quietly over the rounded shale beds, eroded into a thousand quaint shapes by the eternal passage of their life-giving waters. One can scarcely tell their beginnings, their end is always in the mighty Yellow River or one of its larger affluents. They fall in cascades over sills of harder rock, forming deep pools to delight the eye, and refresh the body of the dust-covered traveller, while their banks are often lined with soft, springy turf whereon he may rest.

In certain spots in more western Kansu, parched and desert threatened though it be, the streams approach more nearly to the ideal of our own British brooks, as they wind, almost without a murmer, down wide valleys, where vegetation for some unaccountable reason grows thick, where the low loess hills are wooded and the light soil is held in place by the thick carpet of grass, so that it is not carried down to discolour the waters.

Yet, in all the streams encountered in my wanderings from the Thibetan border to the shores of the Yellow Sea, from the Mongolian wastes to the basin of the Yang-tzu Kiang, there has been something about them, or perhaps it might have been the lack of something, which has stamped them as belonging to China.

But, in Manchuria, as one gets further away from the unifying and timber-destroying influence of the Chinese farmer, and sees more of the original physical features of the land, one is more and more struck by the wonderful likeness that exists between the latter and those of the British Isles.

There, for instance, are the osier beds, the bushes of hip and haw, the thickets and copses. There are the meadows, the swamps and the rich, black soil. But above all there are the brooks and streams, with their grassy willow and alder lined banks, their little wooden bridges and ferries, their pebbly ridges and golden bars of shingle, their trout and grayling, their coots and moorhens, grey herons and dabchicks, and their everlasting chatter as they hurry to join the brimming river.

And it was up just such a one of these streams that our road, if it could be dignified by that name, into the virgin forest lay. Though anything but a river, in our sense of the word, this beautiful stream is known to the Chinese as Ha-ma Ho, which means, Frog River; and it was the first glimpse of it from a neighbouring ridge, as it wound its sinuous way down a wide valley that brought to mind the streams and small rivers in other, more distant parts.

As the guests of Dr. and Mrs. Young we had spent two pleasant and restful days in Ch'ao-yang Chên. Through their native assistant we had been able to engage fresh carts for our enterprise, and now, after having crossed two wide streams, which flowed past the town, later joining up to form the Hui-fa Ho, an important tributary of the Sungari, we were rewarded by this view of the Frog River valley, and, what was better still, our first sight of the great Kirin forest, stretching away to the south and east. Close at hand on the very ridge on which we stood its outskirts began, as great trees spread in straggling lines down the gentle slopes towards the smiling farm lands, and newly cleared meadows of the valley below.

The Ha-ma Ho, a winding band of silver, passed the newly built township of Hui-nan Ting, whose walls of fresh-cut sward and turf enclosed a wide expanse of grassland in anticipation of a rapid growth of the population.

But the forest! Time and again it rivetted one's attention as its millions and millions of trees appeared clothing the hills, ridge upon ridge to the horizon. There was no break in that sea of green; there was no gap visible. It just rolled on and on seemingly without end. Here and there wreaths of thin blue smoke hung over the tree tops, and marked the spots where some settlers had built their log cabins, but otherwise no sign of life was visible, the sombre pines and blue-tinted hemlocks, and their rivals the oaks, walnuts and elms enshrouding everything. Only by dint of careful search, and by following the contours of the valley, could the course of the Frog River be detected. Somewhere amongst those back ranges was the source, whence its limpid waters sprung, and, winding their way amongst the boles of giant pines, over jagged rocks of basalt, through black swamps and star-scattered meadows, finally emerged upon the mile-wide valley at our feet, to become a joy to man and beast, a high-way for commerce, and a fountain of life to the thirsty land through which they should pass, ere they too should go to swell the great Sungari River many miles to the north.

Descending the hill-side we came to the bank of the stream, and saw for the first time dug-out canoes, each made from a single log. Subsequently we became very familiar with these craft, but for the present we found them of great interest. Somehow the sight of them brought the wild very near. Surely we were about to enter a country where man was still in the early stages of development! Across the stream stretched a primitive fish-boom of willow stems, a gap at each end being left for large dip-nets. Best of all, there was a bearded Corean, waist deep in the rippling waters, fishing with a crude rod and line. With his curly, black beard and moustache, his swarthy, almost negroid features and his shoulder wrap of dogskin, he certainly looked the part of the aboriginal inhabitant.

We left the stream without crossing it and entered the town, where we put up at an inn for the midday halt.

As the country we were about to visit was supposed to be overrun with *hunghutzu* (robbers or bandits), we had been advised to send in our cards to the local magistrate, so that he might render us adequate protection. Now the European traveller in China, or the countries under her jurisdiction, is continually faced with the troublesome problem of whether or not to notify the local magistrates of his presence in their district. On the one hand he is threatened with all the inconveniences of having to pay and receive official

calls, coupled with the certainty of being impeded and hindered in his journey or undertakings by ways as annoying as they are impossible to combat; on the other he runs the risk of being robbed or otherwise misused by the natives, without any hope of redress. No official will consider himself responsible for the safety or welfare of a 'foreign' traveller, unless he has been officially notified of the latter's presence in his area. I well remember an incident that illustrates this point. Two of us were travelling in the interior of China, and, following the main road, we had passed a small *Hsien* town at a distance of five or six miles. That night a thief broke into the room where we were sleeping and stole my companion's clothes, and the contents of his pockets. We immediately sent to the official in the *Hsien* town we had passed the day before, as we were in the area under his jurisdiction. He adopted an attitude of offended dignity, and when I went to call on him in person, requested to know why he had not been notified of our presence, which would have enabled him to have taken adequate measures for our protection. I could not tell him that I never went near local officials if I could help it, as I had generally found them more of a nuisance than protection, but had to make the best of it. My companion wired to his legation in Peking, but nothing could be done in the matter, and he had to bear the loss of his watch and valuable gold chain, not to mention some important items of his wardrobe.

The magistrate at Hui-nan Ting, who received our cards immediately adopted the tactics of obstruction, at which Chinese officials are past masters, and which have brought to an untimely end so many expeditions and undertakings by Europeans in China. He sent round to say that under no considerations could we proceed, as the country was infested with robbers. This led to our paying him a visit in person. For two hours we argued the point, and it began to look as if we were going to be turned back at the very threshold of our promised land by this obstinate official, who, I felt quite sure, was far more suspicious of our intentions than solicitous for our safety.

Finally I told him flatly that we would proceed, whether he liked it or not, nor did I care whether or not he sent an escort with us, and, bidding him good-day, returned to our inn and ordered the carters to start forthwith. This firm attitude had the desired effect. What the magistrate *thought* of the matter is recorded in a letter which he sent to the Governor of the province: what he *did* was to send four horse soldiers to escort us to the next *Hsien*

(magistracy) we might encounter on our wanderings; doubtless as much to watch us and to see what we were up to, as to protect us. On the whole one is inclined to have a certain amount of sympathy for this official, for it must have been incomprehensible to him that any sane person could wish to travel in such country as we were about to enter, merely to collect a few small animals for some intangible institution in far away America. Doubtless his experience of the idiosyncrasies of Europeans in general, and the English in particular, were limited.

I have often experienced considerable difficulty in convincing local officials in other parts of China as well as in Manchuria of the innocence of my intentions, and have felt at times that I should fare better were I to own to being interested in some commercial enterprise, such as selling tobacco, oil, or sewing machines.

The first mile or so up the valley of the Ha-ma Ho was accomplished without any trouble. We crossed the stream and followed its left bank, along which a passably good road continued for a short distance. We could not help admiring the scenery which grew ever more entrancing. Along the crest of the ridges on either side of the valley stately trees, oak, walnut and maple, the outposts of the forest, ranged in serried lines. The gentle slopes were richly sown with sorghum, maize, beans, and tobacco, while the sides of the stream were thickly covered with young trees, shrubs, and rank herbage. Here and there the low thatched roofs of small wattle-and-daub huts, or log-built farmsteads could be seen above the thick foliage that hemmed them in. Droves of swine, herded by ragged little urchins, wallowed in the mud-holes along the roadside, or rooted about in the underbrush.

Just as we were beginning to think that we were going to have a smooth journey, there was a cry from one of the servants, and, glancing round, we saw one of our carts turn a complete somersault into a deep pool. Thinking only of rescuing my belongings, I plunged in, and immediately found myself waist-deep in the slimy, stagnant water. The cart lay upside down, wheels in the air. The shaft mule was rapidly drowning as it lay head downward, while the two lead mules were madly struggling to disentangle their legs from the traces, momentarily causing greater confusion. The drivers strove desperately to get the shaft mule's head above water, while the cook assisted me in getting the contents of the cart out on to the bank. The coolie, a good-for-nothing lout, who was not the sort to get himself wet, stood on the bank and watched. There were on this particular cart the Major's guns, my bedding roll,

and, worst of all, a trunk in which were packed my aneroid barometers, my few changes of clothes and some five dozen undeveloped photographic plates which I had exposed at Mukden and on the road to Chiao-Yang Chên. These were completely ruined, as the water somehow got inside the tin, which had been sealed with adhesive plaster.

To get the cart out of the pool was a difficult task, but by getting several ropes under it and putting the mules to pull on these, we managed to right it. Then, by rearranging the ropes and with much exertion, we slowly got the clumsy vehicle on to the road once more, and half an hour later were on our way again. This accident was only the beginning of a series. The raw-hide harness and traces of the cart once wet began to stretch and break, so that delays were frequent, and when we came to bad spots in the road the unfortunate cart always stuck. This necessitated unharnessing the mules from the other carts and attaching them to the one in difficulties, so that much time was lost. Very soon the other carters got discouraged, and when the road began to get really bad, and serious obstacles confronted us, they were as good as beaten at the start.

From now on we were in a sea of trouble. The roads grew steadily worse. The hitherto dreaded quaking bog was out of it altogether. The trail lead across pure quagmire and 'niggerhead' swamp. The latter consists of black, seemingly bottomless ooze, dotted over with tussocks of a peculiar fibrous-rooted grass. These tussocks in the course of time grow to a height of several feet, while not infrequently the channels between them are filled with stagnant water. A man may cross such a swamp with comparative ease by stepping from one tussock to another, but a horse or mule flounders about helplessly. It will be readily understood how effective a barrier the tussocks and intervening channels of ooze form to a heavy vehicle. Cattle and deer, owing to their cloven hoofs, find no difficulty in traversing these swamps, which, in districts where wapiti are plentiful, form their favourite feeding grounds.

Our only course was to drive through the swamps. The leading carter whipped up his mules and took the obstacle at a run. Madly the animals plunged, the cart bounded from side to side as the wheels lept over the tussocks. Just as we thought the difficulty was over, one lead mule slipped and fell, the momentum was lost, and the cart sank back into the ooze and stuck. After a short rest the usual practice of using the lead mules from the other carts was resorted to, and once more whip and voice were plied. There was

III

A Nigger-head or Tussock Grass Swamp in the Valley of the Ha-ma Ho, West Kirin.

a rush as the frightened animals plunged forward, a moment's check as they threw their weight upon the collars, and then, slowly at first, but gaining momentum at each plunge of the long string of mules, the cart moved forward, finally being drawn on to hard ground once more.

The second cart was taken through almost at a gallop with the whole team of lead mules attached; but when the third cart, the one that had upset into the pool, commenced on the perilous journey, disaster overtook it once more. The sodden traces stretched and broke, the mules pitched forward and fell, getting hopelessly entangled in their own and each other's traces. The hitherto dry traces got wet, and thereafter added considerably to our difficulties. By dint of much patience and untold exertion we extracted the cart, and continued on our journey. Three such swamps were traversed, ere we reached at last the heavy timber, where we hoped the road would improve.

Alas, we were doomed to disappointment. So far from improving it grew worse. The subsoil was very soft, and in many places was simply slush. Here and there attempts had been made to fill in the bad spots with cordwood, but the logs had rotted or slipped apart, leaving dangerous holes into which the legs of the mules slipped with imminent risk of being broken. In other parts fallen trunks, or the great knotted roots of trees, made formidable barriers, and between these were scattered jagged masses of rock and displaced boulders. I found out afterwards, that our drivers had taken the wrong road, there being a much better one along the opposite side of the valley. The one we were traversing was only used in winter when the swamps were frozen, and deep snow, packed tight by the passage of sledge traffic, made the rough places smooth.

Slowly, with infinite fatigue and many halts, we made our way through the forest. Presently the sky became overcast, and, to add to our troubles, it commenced to rain, a steady, soaking downpour, that found its way down through the dense foliage overhead, and against which rain coats were of little avail. One and all we were wet to the skin, but we kept on in the hopes of reaching a large farmstead some five miles ahead of us. It was no use, however, the carts could hardly make headway, and, finally, as darkness came on we found ourselves on the bank of a side stream, which it was manifestly impossible to cross.

Our escort then told us that about half a mile up the stream there was a small farmstead where we might find shelter for the

night. We determined to make for this, and in another half hour found ourselves knocking at the gates of a ramshackle palisade, which enclosed a small wattle-and-daub hut. With much reluctance the good woman of the place answered our summons. A long wordy argument followed. Her husband, it seemed, was away, and she was loath to take us in in his absence. By close attention to the voluble flow of abuse which passed between her and our escort, I gathered that it was not us she objected to, but the soldiers, as she knew that they would not pay her for their food. On my promising to square their accounts with her, she finally opened the gates and we trooped in, utterly weary, soaked to the skin and in anything but the best of tempers.

Our first concern was to get our beds up, but here the full force of my calamity was brought home to me. I had not a dry thing! My bedding was sodden from its immersion in the pool: the clothes that I stood in were in a similar condition, as also were those in my trunk. The Major was more fortunate, but as he was travelling very light, having left the greater part of his wardrobe behind in Ch'ao-yang Chên, he could not offer me a change. There was nothing to do but put up with it, and so, after a hasty meal of rice and eggs and a welcome cup of tea, I sought out a warm, dry corner on the *kang*, curled myself up with my wet clothes clinging to me, and in a few seconds was sleeping the sleep of exhaustion.

Next morning my companion complained of the attacks of vermin, and from all accounts he had passed a night of torment, beside which the discomfort of my wet clothes was as nothing. The servants and escort, armed with all the indifference to physical discomfort, which is so marked a characteristic of their race, did not bother to change their wet clothing, nor did the innumerable fleas and other more noxious insects, that had been set in motion by the unwise dispersal of some heaps of old clothes and rags that lay upon the *kang*, disturb them in the least.

They awoke at the first sign of dawn, and roused us to partake of an early cup of tea. To some travellers this may sound the height of luxury, but it must be taken into consideration that to produce the boiling water for the tea, the room had been filled with acrid smoke, and therefore in any case further sleep was out of the question.

A precious half hour was wasted in settling the account, amounting in the end to fifty cents, after which, the carts being ready, a start was made. As we set out mists hung heavily over everything. The tall, straight boles of the trees appeared like

shadowy ghosts as they came stalking up out of the gloom, stood out plainly for a moment, and then passed on out of sight behind us. On every hand was the ceaseless drip of the rain soaked woods. Overhead the foliage was hidden, but here and there a brighter spot showed where a gap in the leafy canopy let in the watery rays of the rising sun.

The mules, with carefully repaired harness, and after their night's rest, made light work of the ford, which had formed so effective a bar to our progress on the preceding evening.

Soon we began to ascend, and ere long came out upon a smiling hill side, free from timber, with a clear road across it. The sun, gaining power as it ascended into the heavens, was rapidly dispersing the night mists, and when a light breeze sprang up it chased away the few remaining streamers that clung reluctantly to the forest.

The scene which now spread itself before us merits description. We were on the cultivated side of the valley. Below us lay an extensive nigger-head swamp, the fresh young grass of the tussocks showing a brilliant emerald green. Beyond could be marked the course of the stream as it wound, snake-like, through the broad valley bottom. From its far bank, as it swept under the brow of a hill, commenced the forest, which rose a massive wall of timber and rank leafage, taking in the top of the ridge and reappearing on each successive crest, till dimly in the distance it made ragged the outlines of the high back ranges. To the east the view extended up the valley, in which direction the open swamp soon gave place to forest, though the course of the former could be distinguished for a while, till it, too, was lost in the labyrinth of hills and dales.

For a mile or two the road lay along the slope, subsequently descending once more into the valley, where before long our carts were again struggling through the hopeless swamps. Hour after hour they toiled, making but the slowest progress.

We passed at intervals flourishing farmsteads, each of which lay in a newly made clearing of several acres. Here beans, maize and sorghum grew luxuriantly, or tobacco seedlings pushed their first tiny leaves above the rich mould. Huge logs lay rotting upon the cleared fields, their size preventing the farmers from hauling them away, and timber being too plentiful to make it worth their while. In places where the farmsteads abutted the nigger-head swamps, the settlers made these fruitful by cutting down the tussocks, and building them into ridges, two or three feet wide and extending the whole length of the swamp. Upon these ridges beans

could be planted successfully, while the deep ditches between them carried away to the stream the surface water from the swamp.

Each succeeding mile brought us deeper into the forest, which grew ever more dense with a corresponding decrease in the number of farmsteads and clearings.

At one place we were confronted by the stream which crossed the valley, but the carters, after some hesitation, drove into it, and much to our relief crossed it safely. As the forest closed in on all sides, the road seemed to cut through it in a deep lane, and I began to feel that at last we were really in the very depths of it. For some time we had been looking for a suitable camping site. It seemed hopeless to go on in the way we were doing, besides which it was becoming increasingly evident that the mules and carts would not be able to get much further, both animals and men being utterly demoralized. So the best thing to do was to stop, pitch camp, and try collecting at the first convenient spot.

Thus at about five in the afternoon, when we emerged once more upon a clearing, a halt was called, and a good spot chosen. The carts were unloaded, our tents were set up under the shelter of some tall trees, with open space to the south of us, and preparations for a stay of some days were made.

Scarcely had we paid off the drivers, and settled ourselves comfortably in camp, than it began to rain once more, and for three days we were treated to a sample of Manchurian weather at its worst. My clothes and bedding had no chance of drying except by the heat of my body, and occasionally, when the rain stopped for a short while, before the fire on which we cooked our meals. It was not cold, however, and I managed fairly well.

Of all the unpleasant experiences a traveller has to go through, perhaps that of being under canvas in really wet weather is the worst, but it is one that cannot always be avoided, and happy is the man who is possessed of sufficient woodcraft to enable him to keep himself and his belongings dry. Much depends on the careful choice of a camping site. Great care must be taken to avoid low-lying ground, or any spot that might turn out to be in the path of an intermittent spring. The thoughtful woodsman always digs a trench round his tent, banking the earth *inside* the flap. More than once I have seen a careless traveller pay dearly for neglecting to take this simple precaution. In the Manchurian forest a knowledge of the timber is most useful, for there are some species of pines with wood so resinous that it will ignite from a match, while a sliver of a few inches' length will burn strongly enough to start a good fire even with damp wood. The rotting

View of the Ha-ma Ho.

A Corean Woman washing clothes in the Ha-ma Ho, W. Kirin.

punk found inside the trunk of a fallen birch is also useful stuff wherewith to start a fire in damp weather, for it is generally dry and inflammable, the tough bark of the tree forming a very effective shield from the rain or moisture of the ground. The green bark of the birch itself contains a considerable amount of grease or oil of some sort, and will light readily and burn fiercely when everything else in the woods is sodden.

Though neither of us could boast of being an expert woodsman, we had with us a servant, the cook, who had travelled in the forests of Northern Manchuria and Eastern Siberia; and it was he who got the first fire going in an incredibly short time, and in a way that spoke of considerable experience. The members of our escort also knew something of life in the woods, for they had often been out in chase of *hunghutzu*; so that in one way and another we managed very well, and I settled down to make my first investigations of the fauna of the Manchurian forest, to the ceaseless drip, drip, drip, of the woods, and the distant murmur of the little Frog River, now but a few yards in width, and resembling nothing so much as a trout stream in North Devon.

I got my traps out, and before dusk had set out a line of a couple of dozen or so along the clearing and up a side ravine, after having done which I enjoyed a much needed evening meal, followed by a quiet smoke and chat with the Major, and then bed.

CHAPTER IV.

Wild Life of the Forest Outskirts.

A turn, and we stand in the heart of things
The woods are round us, heaped and dim;
From slab to slab how it slips and springs,
The thread of water single and slim,
Through the ravage some torrent brings.

On our other side is the straight-up rock,
And a path is kept 'twixt the gorge and it.
By boulder-stones where lichens mock
The marks on a moth, and small ferns fit
Their teeth to the polished rock.

—*Browning.*

CHAPTER IV.

Wild Life of the Forest Outskirts.

Next morning we awoke to the sound of that ceaseless drip, drip, drip of water upon the low herbage about us and the canvas overhead. So soundly had we slept after the fatigue of the two previous days' travel, that we had been completely oblivious to the many night sounds of the forest, with which we were to become so familiar before long. For the present only that one melancholy sound, drip, drip, drip, invaded the stillness of the early morning. There was small inducement to get up on so thoroughly wet a day, and we could not be blamed for deliberately turning over in our beds and going to sleep again.

But this could not continue all day, so at last we had to turn out. I went the rounds of my traps, to my disappointment finding them empty. One had been sprung, and a search round discovered the head and entrails of a woodmouse upon the stump of a tree close by. Evidently some small owl had found the captive in the trap, and had made a meal off it.

Further on another trap had been sprung. This I reset, but every morning found it sprung with the bait gone; nor was it till the same thing had happened many times and in many places, that I discovered the mysterious thief to be the great green carnivorous ground beetle (*Carabus schrenckii* Ménetr.).

In a clearing behind our camp I came upon the fresh trail of a roedeer, while in a small ravine not far away, a chipmunk, which had braved the inclement weather, sat on the end of a log scolding me as I passed. These were all the signs there were of any mammals; though bird life was much more abundant.

When I returned to camp at noon, it was to find that the Major had discovered some snipe feeding upon the fresh-turned sod in a clearing, which some newly arrived settlers were making. At first he had thought the birds were woodcocks, so large were they; but they turned out to be one of the pin-tail snipes (*Gallinago stenura*, Kuhl.). This fine, sporting bird, considerably larger than the common, or winter snipe (*G. coelestis*, Frenzel) appears to be very common in Manchuria. Its chief characteristic is the tail, which is

shorter than those of any other species, but makes up for this in having a greater number of feathers; in all twenty six. Of these the outer eight on either side have become modified into almost pin-like shafts; hence the name. Another point in which the pin-tail differs from the common snipe is the more pronounced nature of the bar markings on the under surface of the wings; while the markings upon the back and upper wing-surfaces are not so conspicuous as in the common species.

The birds that the Major had shot were in splendid condition, literally bursting with fat. They must have been on their way to their breeding grounds, which are said to be within the Arctic Circle. Evidently they were having so good a time with the grubs and worms that the farmers were turning up for them, that they were in no hurry to take on the serious duties of incubation. It was now well into May, and when it is considered that birds of this species may be shot round Tientsin and Newchwang on their return journey in August, it will be understood that they had a strenuous time before them, and so could hardly be blamed for staying on to load up with fat ere they departed northward.

During our stay in this vicinity the only fresh meat we had was from these snipe, and grateful we were for it. Pheasants were plentiful, to judge from the incessant calling of the cock birds, but it being their breeding season, they must be left alone. Indeed, had we wished to shoot any it would have been a difficult matter, for though we heard them so often, they kept to cover so carefully, that we scarcely ever saw them. When we did, it was only a glimpse as one dashed by in the underbrush. Once or twice by creeping stealthily through the woods, I surprised a cock standing on the end of a log, drumming with his wings, as he issued his shrill, double note of challenge. Though I searched carefully I never once discovered the hen bird or her nest, notwithstanding the fact that the latter was probably somewhere close at hand.

During the course of the first day's tramp through the woods, we encountered, for the first time, the beautiful Oriental roller (*Eurystomus calonyx*, Sharpe). At first I could not make out what the large birds were, that kept so carefully to the tops of the highest trees, and, try as I would, I could not get a shot at them. Perched on the topmost branches of tall, dead walnut trees that stood in the clearings, they kept up an incessant clamour, their shrill, trilling notes being heard at considerable distances. Ever and anon one would dash out into the air, make several swift passes at some large insect, and return to its perch, but the moment either of us

appeared in the clearing, the attention of every bird was upon us, and if we attempted to approach the trees on which they sat, they would fly off at once, to seek shelter in the dense foliage of the forest beyond.

Another beautiful bird that I encountered here for the first time was the tricolor flycatcher (*Xanthopygia xanthopygia*, Hay). This charming little songster owes its name to the three colours of its brilliant uniform. The lower parts and breast are of a bright yellow deepening into a rich orange on the throat. There is a yellow patch on the lower back. The rest of the plumage is black, except for a white patch on each wing, white tail-base and white eyebrows. I came upon it first sitting upon a rock, deep in the woods, pouring out its short but pretty song. It allowed me to approach quite close, before it flitted away through the low shrubs.

One of the keenest pleasures in a naturalist's life is to come thus upon a bird or animal that is new to him. The chance of experiencing the thrill of it is multiplied an hundredfold in a first visit to a little known forested area like the one we were now in, and it forms one of the strongest notes in the call of the wild.

On our way up the valley we had more than once noticed the promising nature of the stream. It looked just the place for trout, and as we had already seen some very fine samples of the local species in the fish markets at Ch'ao-yang Chên, taken, we were told, in the Hui-fa Ho, we determined to lose no time in trying our luck with rod and line. I had brought along a couple of fishing rods and some extra lengths of line, but no flies. This omission I tried to remedy by making some flies from snipe feathers, and, when everything was ready, we set out for the stream. In a few minutes we stood upon the bank enjoying a view of one of the most enchanting spots it has been my lot to see. The stream itself was everything to be desired. Perfectly clear, it contained deep pools and chattering rapids, with here and there sandy shallows. For the expert canoeman a fairway might easily be found, in spite of the shallows and rocks. Along one bank the trees grew thickly right down to the water's edge, while on the other they were more sparsely distributed, rich grass growing in profusion between the tumbled masses of rock at their feet. Thirty feet back a low cliff composed of distorted lava formed just the right setting for innumerable ferns and rock plants. An ill-defined path followed the stream close to its edge, trodden into existence by woodcutters, who had used the stream to drift their smaller logs down to the market at Hui-nan Ting.

Nothing could be better, we thought, for our purpose, and we lost no time in getting to work. Strangely enough we failed to get a strike, but I am inclined to the belief that this was due more to our lack of skill and experience than to the absence of fish. Before long the few flies that I had made had either caught in the leaves and twigs behind or had hooked into some object or other in the water : in any case they were soon all gone. Next worms on ordinary hooks were tried, again without success, and at last we gave it up as a bad job. The water looked cool and inviting, so we cast the rods aside and plunged into the stream for a dip.

On returning to camp I asked a native if he could catch any fish, and he replied that he could : so I gave him an order for a few for to-morrow's breakfast. Next day, sure enough, he turned up with a basket full of trout and grayling, varying in size from six to ten inches in length. The trout were very handsome fish, well spotted with black, and of a rich bronzy sheen on the sides. Both species were everything to be desired in the culinary line. On being asked how he caught them, the woodsman produced a hook upon which was bound with raw silk a fringe of stiff red hairs. He said this peculiar 'fly' (though he did not call it a fly) was the only thing that these fish would take, excepting another kind made by the Coreans from the vermiculated feathers of a duck's breast. Asked where he caught the fish, he would not answer, others standing round explaining that only in certain spots could the fish be caught, and those who knew of these spots did not like to divulge the secret. There was nothing for it but to give orders for more fish from this astute disciple of Walton.

I determined, however, to have another try myself to catch some trout, so on the following day with some newly made flies went down to the stream again. For over an hour I whipped the water but still without success. As it was a warm day I got very hot, and finally sat down on a rock under a shady tree to rest. As I sat there, thoroughly enjoying my peaceful surroundings, a rustle behind me made me look round, and there, daintily picking its way through the underbrush and tall grass, was a handsome roebuck. The beautiful animal had not noticed me, and came on to the bank to drink. On seeing the fine horns I could not help wishing I had brought a rifle instead of a fishing rod. As if my thoughts had been conveyed by telepathy the deer suddenly looked up, and stared at me for a few seconds, then turned and dashed away into the woods, barking as it went.

I sat on in the hope that the deer would return, but it had been too thoroughly startled, and I waited in vain. My patience, however, was rewarded in another direction, for I was given glimpses into the private lives of many other denizens of the woods. A large brown rat, which at first I took for a water-vole, suddenly appeared from under the bank, and, after foraging along the water's edge for a few yards, boldly took to the stream, and swam across. His wicked head, just above the surface, sent off a long ripple on either side, which showed in the dark reflection of the opposite bank as two thin, silvery lines of glancing light. He pulled out upon the bank, and as if with a steady purpose in view struck straight into the underbrush and was gone.

A harsh squawk down stream next attracted my attention. With heavy wing-beats a great grey heron came flapping lazily along. Near a rapid he put on the brakes, so to speak, by tilting up his body so that the wings, held rigid for a moment, presented a surface at right-angles to the line of flight. Then his long legs shot forward and he lit, light as a feather, upon the end of a projecting log. After a keen look round in which he entirely missed me, because I kept as still as the rock on which I sat, he settled himself, with head sunk deep between his shoulders, to watch the glassy waters for his prey. Would he prove a better fisherman than I? A few minutes' patient waiting soon settled the point. Suddenly with a thrust of the long neck and javelin beak, quick as a serpent's blow, a passing fish was deftly seized, and, almost before one could make sure that it was a fish, had slipped down the long gullet. Sometimes one wonders what surprize and consternation must seize the rest of the fishes, when one of their number is thus suddenly transported from their midst. At any rate on this occasion it could not have been of long duration, for soon another and another wriggling victim went to join the first.

At this moment the heron's attention, as well as my own, were drawn away from the absorbing occupation of fishing, by an outrageous chattering and scolding. A diminutive chipmunk had suddenly discovered my presence, while hunting or playing in the branches of a neighbouring walnut tree, and was voicing his indignation in the most unseemly manner. The heron must have caught the movement of my head as I turned to look at the offensive little spitfire; for with a harsh croak, in which surprise was unmistakably mingled with alarm, he launched himself into the air, and with as much speed as his clumsy form could muster set out down stream. Determined to be avenged for the insults

the chipmunk had heaped upon my unoffending head, I started to climb the tree, which was not a very tall one. This appeared to be a new and unexpected contingency. It had the effect of immediately silencing the impudent one, who tried to meet the altered conditions by 'freezing.' He sat perfectly motionless, pressed flat against the branch, with only his whiskers moving nervously, by which I could tell that his little nose was working to catch my scent. I climbed steadily towards him, and at last his nerve gave way, and with renewed chatterings, now hysterical with fear, he scurried to the end of a branch. I climbed out upon the branch and worked my way along it. Just as I thought I had him, the chipmunk, with a quick look round for some other way of escape, suddenly sprang into space and with legs wide spread and tail waving round in a circle shot downwards, landing uninjured upon a tuft of grass. Next instant he was gone, and only a dark hole below a rock showed where.

As I was about to descend there was a swish, a noisy, trilling scream, and, in long undulating swoops, a pair of great black woodpeckers (*Picus martius reichenowi*, Kothe) came chasing each other through the woods. They lit upon the trunk of a great oak, and commenced scrambling upward, dodging each other from side to side, their long claws scraping upon the bark and sending down showers of small chips. Round and round they went, till they reached the upper branches, then off through the woods again on their tireless chase. What handsome fellows they were, with their jet black plumage and scarlet crowns. Their bills, really of a light blue-grey, looked ivory white in the distance. Later I saw the holes of several of these birds, high up in the trunks of dead or dying trees, but it was many a day before I got another such view of the birds themselves as I had just had. I found that the grey-headed woodpecker (*Canus griseoviridis*, Clark.) as well as the great spotted woodpecker (*Dryobates major tscherskii* But.) were both very common in these woods.

I gave up fishing after my second trial, devoting my whole time to the collecting of mammals. Poor success was mine, however. A few chipmunks, a striped field-mouse (*Apodemus agrarius mantchuricus*, Thos.), which, by the way, appears to be as much an inhabitant of the woods as the fields, and a wood-mouse were all I secured. Of these the last turned out to be new to science, and was described later under the name of *Apodemus praetor*. It is much larger, and has a proportionately larger foot than the nearly related species from North China and Corea.

A Manchurian Trout Stream, West Kirin Forest.

Camp in the West Kirin Forest.

One day as I was pushing along the side of the stream an angry hiss caused me to jump back. There, hanging in some mysterious way to the bark of a 'cork-oak,' his venomous looking head poised as if to strike, his forked tongue darting in and out like lightning, was an enormous black serpent. He was the wickedest looking thing I had ever seen, and a cold shiver ran down my back. Without waiting to think I raised my gun and put a charge of shot into the ugly creature just behind the head. He fell to the ground and lay writhing, as snakes will long after they are really dead.

I stretched him out and put the tape along his quivering body: he measured four feet seven inches in length, and was four inches in circumference. The charge of shot had hopelessly spoiled him as a specimen, but I carried the body back to camp and peeled off the skin, which subsequently made an excellent covering for a stout walking-stick. An examination of the head and jaws soon showed that the serpent was harmless, but as I came upon him, the dead black colour, and head held back, with the angles of the jaws wide spread, making the head heart-shaped, had given the creature the appearance of a poisonous species, such as a viper.

Subsequently I came across many more of the same species as this large black snake, but in nearly every case the black was relieved by bright yellow or orange markings on the under surface and sides. Some of these were very large, measuring over five feet in length, while I purchased one dried skin which measured four and a half inches in width without being stretched. From the dried condition of this skin, and the enormouse size of the scales, the snake when alive must have been a monster. The natives told me that they sometimes saw snakes ten or more feet in length, with the thickness of a man's arm. Doubtless this is an exaggeration, but I should think that specimens seven or eight feet in length might be met with.

A small species of lizard (*Takydromus amurensis*, Peters) also inhabited these woods, but I always failed to catch any. They were too fast. In another part of the Kirin forest I secured a specimen or two.

I found specimens of the little fire-bellied toad (*Bombina orientalis* Boulenger), beautiful little creatures that frequented the dark, still pools of the forest, where it was almost impossible to detect them, so perfectly did they harmonise with their surroundings. Their colouring, though vivid enough when shown up against a plain field, mimicked the mottled, decaying leaves at

the bottoms of the pools, or blended with the moss on the banks. Of a bright green above, which seems to grow light or dark according to the surroundings, they are mottled or marbled with black. The under surface, throat, belly, legs and all, are of a brilliant vermilion or orange-red, also marbled with black.

When alarmed these little toads hollow their backs, and turn the soles of their feet upwards. As the throat is brightly coloured and there is a brilliant flaming spot on the sole of each foot, front and hind, the effect produced is a grinning red mouth and four fiery red eyes. Such a provision of Nature reminds one of the 'eyes' upon the wings of certain of the *Lepidoptera*, which are undoubtedly for the sake of protection.

Another frog that I found in the forest was of a pale flesh colour, and doubtless belonged to the species *Rana amurensis*, Boul., specimens of which I secured further north in Kirin. I did not take any specimens of the lower vertebrates at this spot, for which I was very sorry afterwards, for I never got the chance again of securing specimens of grayling, though in later trips trout were captured and preserved.

Though both the Major and I hunted continually for signs of big game animals, nothing was seen; there was not even the track of pig or bear, which were supposed to be plentiful in the district. This the natives explained by the fact that, owing to the depredations of *hunghutzu*, a small stockade had been erected a mile or so up the valley, where a garrison of soldiers had been maintained during the winter. These soldiers had supplied themselves throughout the colder months with game from the surrounding woods, and had driven everything away. Later, in a conversation with the officer in charge of the stockade, I learned that they had killed some two hundred roedeer, a few pigs, two bears and a wapiti. Little wonder, then, that we could discover no signs of any of these animals, excepting always the roe, which seems to be the only member of its kind at all plentiful, even when persecuted by ruthless hunting.

As my traps were yielding so badly, and hunting was even less successful, the matter of moving to some other spot became urgent. But how to get transport was the question!

On the way up from Hui-nan Ting, we had encountered a man named Liu, who owned a farmstead at the very head of the Ha-ma Ho, and he had shown himself very friendly, expressing a wish that we would visit his place. As a matter of fact he had had something to do with the missionaries at Ch'ao-yang

Chên, and so looked upon all foreigners with a kindly eye. It so happened that he had heard of our unhappy journey up the valley to our present camp site, and decided to send a cart down to help us. It arrived just at the moment when we were debating what to do, and I gladly arranged with the old driver to transport the necessary part of our outfit to his master's farmstead. A message from Liu stating that he could put us up obviated the necessity of carrying the tents with us, and by further reducing our baggage, dispensing with everything but the barest necessities, we managed to get what was left upon the single cart, which happened to be a large one. The superfluous packages were left at the stockade. It may here be stated, that, though the magistrate at Hui-nan Ting had shown us such scant civility, the members of our escort and the officers at the stockade made themselves very agreeable, and helped us in every possible way. Their greatest anxiety on our behalf was lest we should get out of their sight, and into the hands of the *hung-hutzu*, who, they said, were very numerous in the neighbourhood.

The journey from our first camping site to Liu's farm, was accomplished without mishap. The old carter, a little fellow, whose general appearance might have been taken as indisputable proof of the Darwinian theory, certainly knew his business.

Perched on the shaft with legs swinging freely to maintain his balance, and by the dexterous use of his twenty foot whip, coupled with a really marvellous flow of language, he guided the four lead mules with unerring instinct over the difficult road. He took all obstacles at a run, and it was fortunate that the wheels were low and the axle broad, for otherwise the cart must have capsized.

Many times we crossed and re-crossed the Frog River; while often the road followed its course for miles at a time. The more one saw of it the more one loved it, that beautiful, splashing, sparkling stream, now sombre beneath the shade of the mighty oaks; now glistening in the sunlight, as it crossed some open glade; and now foaming and roaring as it dashed, boiling, over gigantic slabs of basalt, which tried vainly to stem its flood. Sometimes it was spanned by a roughly built bridge, sometimes by a fallen log, but more often a crossing for the traveller on foot must be effected by means of a long pole-jump.

It wound from side to side of the wide valley, at times undercutting some protruding headland, at others wandering off into the woods and losing itself for a mile or so.

With each succeeding mile it grew smaller, but ever more beautiful. The underbrush on its banks grew more impenetrable, while the outcrops of rock that it laid bare, showed more and more like slag from a furnace, until at last, as we commenced to ascend the head of the valley, nothing else was visible but twisted and tortured lava, flecked with foam, and coated with moss.

Some clearings were passed, but these grew fewer and farther between, and the huts they contained smaller and less pretentious. At last, after plunging through a particularly dense stretch of forest, we immerged upon the last clearing in this direction, and at its far end could see the low thatch roofs and the smoking chimney stacks of Liu-chia-tien, as Liu called the place. A mile beyond the main ridge stood out, and there that very day I found the source of the Ha-ma Ho, the little Frog River, in a soft reed-bed, bedecked with great purple irises and waving grass-plumes.

CHAPTER V.

The Crater-Lakes.

Four limpid lakes—four Naiades
Or sylvan deities are these,
In flowing robes of azure dressed,
Four lovely handmaids that uphold
Their shining mirrors, rimmed with gold
To the fair city in the West.

By day the coursers of the Sun
Drink of these waters as they run
Their swift diurnal round on high;
By might the constellations glow
Far down the hollow deeps below
And glimmer in another sky.

—*Longfellow.*

CHAPTER V.

The Crater-Lakes.

One of the chief reasons why I had chosen to enter the great Kirin Forest from Ch'ao-yang Chên was that my friends had told me of a wonderful lake, which one of them had once visited, and which lay some little distance inside the forest. The description of it had aroused at once my curiosity as to the nature and origin of this lake and a desire to view its beauties for myself.

Therefore on our arrival at Liu-chia-tien, no time was lost in enquiring as to the whereabouts of the Lung Wan (Dragon's Pit), as the lake was called by the Chinese, and to our delight we found that it was only a mile or so up the valley.

The Major and I set out forthwith to have a look at the wonder, for the Chinese around us clearly looked upon it as such, and only spoke of it with awe and a sort of superstitious dread. Half an hour's walk brought us to the head of the valley and a sharp ascent through the woods. Arrived at the top, we were suddenly confronted with a view through the trees of a wide amphitheatre, several miles in circumference, and of considerable depth. Its sides were heavily overgrown with timber and at the bottom, a couple of hundred feet or so below us lay a perfect gem of a lake. Like a great sapphire it lay, throwing out from its mysterious depths the deepest blue of the ocean, and casting back from its shimmering surface the azure of the summer sky. Round its margin, where the thick verdure of spruce and pine, oak and maple, descended to the water's edge, emerald lined the circle of golden shingle; while a passing cloud warmed it with a tint of amethyst.

It was perfect; nothing in the world could surpass it; few of our lacustrine wonders could even rival it in beauty. It took one's breath away; held one spell-bound, making one long for the skill of a Turner to portray its harmonies of colour, light, shade and reflection.

So fair was the scene, one almost felt as if here, in very sooth, were Arcady itself: one half expected to see nymphs disporting along the sun-kissed brim, and to catch a fleeting glimpse of satyrs amongst the trees. Surely Pan with his pipes must be there, waiting to fill the air with sweet melody. Even the natives

seemed to feel something of its awe-inspiring beauty; for they conversed in whispers, as we descended to the margin. They gazed up at the steep, encircling slopes, visibly impressed by this marvel of nature, this Dragon's Pit.

After the first vague feeling of wonder had somewhat worn off, an intense curiosity seized me, and I began to seek some clue to the origin of this lake, set thus at the bottom of this gigantic devil's pit with neither feeding stream nor outlet.

Gradually the truth dawned on me. We were standing in the crater of an extinct volcano! As already stated, the volcanic nature of the rocks on our way up the Frog River had been noted. An examination of the outcrops on the sides of the hollow, which were almost perpendicular, left no room for doubt. Slag and twisted lava gave the impression of the inside of an old brick-kiln, such as the Chinese use.

The sides were from 200 ft. to 300 ft. in height, and, as already indicated, were heavily overgrown with tall trees and underbrush. The water was beautifully clear and apparently of great depth, to judge from its deep blue colour, and the sharply sloping bank.

Turning to our guide, a little hunter, who had been hastily summoned by Liu to take us round, I began questioning him. He told me that some hundreds of *li* away to the east was a high mountain called Lao Pei Shan, in which was a large Lung Wan or Dragon's Pit. This, he said, was the mother of seventy-two other smaller Dragon's Pits, half of which contained water, half being dry. They were scattered over the country between here and the Lao Pei Shan. He, himself, had visited some thirty of these. A dragon lived at the bottom of each, and had control over wet and dry seasons according to the nature of the pit it lived in. They were all like this one in general shape, though some were larger and some smaller. He believed that all those containing water were connected with the lake in the Lao Pei Shan by subterranean channels.

Further questioning elicited the fact that a second crater lake lay about 5 *li* (1⅔ miles) to the south of the one on whose banks we stood, while a third lay 20 *li* away in the same direction. Accordingly I determined to visit these, but not before I had thoroughly explored the first one.

After a careful survey of the sides, and finding only the slag-like rocks where outcrops showed at all, I turned to take note of and enjoy the wealth of living things that surrounded us.

The first Crater Lake, West Kirin Forest.

The second Crater Lake, looking towards the low side of the Crater, West Kirin Forest.

It is almost impossible to describe adequately all the myriad forms of animal life that one encountered in this delightful spot.

Magnificent butterflies, swallow-tails and others, flitted crazily over the blue waters, or settled on the rich leaf-mould at its margin. Brilliantly coloured beetles, resplendent in shining armour, crawled over the spongy moss and tangled roots of the underbrush, or wandered out upon the deer paths in search of food. Some of these when they took wing, shone intermittently through the patches of sunlight like living gems, now flashing a dazzling sheen of green or gold, now glowing dully red in the sombre shadows of the giant trees. Gaily plumed birds sang in the branches overhead, conspicuous amongst them being the tricolor flycatcher, and the golden oriole with their burning yellow plumage, and the noisy roller, whose vivid blues rivalled those of the lake itself.

From the dense cover on the opposite bank there drifted across the still waters the bark of a roedeer. Far out in the middle of the lake, standing on a floating log was a grey heron, his mate squaking harshly from their nest, which could be seen in the highest branches of a pine away up on the top of the ridge.

On the far side of the lake, its breast shining white in the dark reflection of the wooded slopes behind it, a great crested grebe swam or dived in search of food. Later we discovered the nest floating on the water and anchored to a submerged branch of an over-hanging birch, and risked a ducking to secure a photograph. On the same excursion, which took place a couple of days later, we came across the fresh tracks of a mighty stag, who had come down to the lake to drink. A little way up the slope I picked up a roedeer's horn, bearing the marks of the chisel-like teeth of some wood-mouse. Up to this time I had always been somewhat sceptical as to the truth of the statement that rodents are responsible for the disappearance of the shed horns of deer; but here was tangible evidence in support of the theory. I have since had confirmation in finding similarly gnawed horns. There is another reason, however, why shed horns are so seldom picked up, even in a country where deer are plentiful, and that is that the deer themselves eat their dropped antlers—a fact well known to the keepers of Scottish deer forests. I obtained striking evidence of this while on a hunting trip in North Shansi, where I picked up the cast-off antler of a wapiti stag, the tines of which had been chewed completely away, the teeth marks showing plainly that this had been done by the deer themselves.

In the mud on the eastern shore of the lake were the fresh tracks of a bear, while a small hollow half way up the cliff showed traces of a fox in a well worn path and the feathers of a hazel hen. The little hunter told me that when he and his companions were cutting timber here during the winter, large rats used to steal their food, boldly entering their log huts, the remains of which could be seen on the southern shore. I was unable to secure a specimen of one of these animals, but from the hunter's description conclude that they belonged to the species *Epimys norvegicus caraco*, Pallas, the common rat of the region, specimens of which I secured further north, and not, as I was at first inclined to think, to some form of water-vole.

Now all these animals and birds and insects belong to the forest in general, and not to the lake in particular; but in the lake itself were some interesting forms. Numerous shoals of a species of minnow swarmed along the edges; and here one is at once confronted with the problem of their origin. However came they there, in this lake formed by the rains of countless ages, long after that caldron of molten rock and belching vapours had cooled down and died? There is no outlet, neither is there anything to show that the district itself could ever have lain under a wider stretch of water after the time when the volcano was active. There were crayfish also in the lake, of exactly the same species as those in the adjacent streams, but, by a stretch of imagination, one might account for their presence. Having legs their progenitors might have crawled across the dividing ridge; but not so the minnows. Another explanation must be sought, and I am inclined to the theory that the eggs of the ancestors of the species were carried from the neighbouring streams sticking to the feet or feathers of water-fowl, just as the seeds of many water plants are known to be distributed.

Whatever their origin they were sporting little fish. With a thin line and a small hook, baited with a worm, they could be caught, though some practice and skill was required in learning to strike at just the right moment, and to flick them out of the water on to the bank.

At the end of an hour's fishing one generally had a respectable catch, which, cooked as white bait, made an excellent dish. The crayfish (*Camberoides dauricus*, Pallas), too, could be caught easily, though by a somewhat different method. A piece of fat pork was tied to a long wand and placed in the water. In an

incredibly short time the greedy creatures would swarm upon the bait, when they could be dragged out of the water and landed before they would leave go. Another method was to place in the water a box or tin can, covered over with a piece of cloth with a hole in it. Some bait of linseed paste, being placed inside the box, attracted not only crayfish but minnows as well, which once inside were unable to find their way out again. Some of the natives, it seemed, came daily to catch these creatures. The crayfish they would roast in the hot ashes of a wood fire on the spot, the fish being taken to their cabins, and either fried in oil and eaten with the next meal, or dried in the sun for winter use. The largest of the minnows were about six inches in length.

It took two full days to work all round the crater examining everything in detail. On the third, having satisfied my curiosity, I decided to visit the lake 5 *li* away. A tramp through the almost trackless woods, guided by the little hunter, over low ridges and down leafy dingles, brought me at last to a stiff slope, up which we climbed. From the top the hunter pointed down through the trees, and, sure enough, there was the faint glimmer of water which marked "the shining levels of the lake." So dense was the foliage, however, that, at no point on the surrounding ridges could we see the whole lake, though we circled it completely before descending to the shore.

This lake, which is known to the local woodsmen as Nan Lung Wan (South Dragon's Pit), differs considerably from the other. In the first place it is oval in shape, not round, the greatest length being from north-west to south-east. The sides of the crater, for such it also appeared to be, are very much lower, and slope more gently, while at the north-western end a bank of not more than thirty feet divides it from an open valley. Still the nature of such rocks as lay exposed to the elements, though much weathered, gave ample evidence of the volcanic origin of the hollow.

The shores slope very gently, except at that end adjacent to the low bank. Three small streams enter the other end, which is very shallow and over-grown with marsh plants, reeds and rushes, sedges and irises. Here aquatic bird-life was in great evidence. The great crested grebe and the little grebe were found nesting. Out of the rushes, as we pushed our way through them, flew a pair of little bitterns (*Ardetta eurythma* Sw.). Several Mandarin teal were also flushed, while a fine grey heron stood out on the end of a half submerged windfall, his graceful form faithfully reproduced in the smooth water that he watched so carefully for his

dinner. Some sort of reed birds, doubtless warblers, dodged through the rank growth as we passed, and brilliant kingfishers and yellow-breasted wagtails darted along the shore ahead of us.

Here, again, the unmistakable tracks of a bear were seen.

At the first lake I had tried a plunge into the clear waters, and after a good swim, emerged safe and sound, to the great surprize of the natives, who, apparently, had expected to see me swallowed up by the dragon. They told me that I was the first human being that had ever bathed there, a statement I could not believe. The water was very much warmer than that of the neighbouring streams, and was pure and sweet to the taste.

In winter, the natives said, the lakes are frozen over, but none of them cared to traverse them. They told an amusing story of a hunter who discovered, one morning, three wapiti, a stag and two hinds, out on the ice of one of the lakes. They had evidently wandered on during the night, and, having slipped down, were absolutely helpless. Now deer being worth very much more alive than dead, owing to the value of the horns when in velvet, the hunter decided to capture them, but, not wishing to share his spoils with others, he refrained from securing help. First he seized one leg of the stag and dragged the animal kicking to the bank, where he thought to tie it up. Of course as soon as the deer reached *terra firma* it sprang up and bounded off into the woods, and with it went an annual yield of £20 worth of hartshorn. Much chagrined the hunter approached one of the hinds, and bound its legs before dragging it to the shore. But this time he had failed to reckon upon the strength of a wapiti hind maddened with fear. The terrified animal began bounding over the ground in spite of the ropes round its legs, falling about in a helpless way, yet with each frantic struggle loosening its bonds till finally they slipped off, and away went the potential mother of many baby stags, each in due course capable of yielding a yearly handsome head of horn. Then the hunter, who still did not wish his companions to have any share in his find, drew his knife and killed the remaining hind ere he dragged it to the bank, and carried it in sections to his camp. Out of his lucky find which might have been the beginnings of a good deer farm, rendering him independent for life, all he actually secured were a couple of hundred pounds of venison, and a more or less useless hide.

Owing to the presence of *hunghutzu* in the surrounding woods, about which more later, the little hunter absolutely refused to guide me to the next lake 20 *li* away; nor would my secort of ten

foot soldiers, who had been sent from the stockade in addition to the mounted men from Hui-nan Ting, accompany me so far from their base, Liu's farm. Thus I was forced to give up my project of visiting it, though my curiosity had been roused by a statement, made by the little hunter, that there was an island in the centre of the lake, whereon no man had ever set foot. He also said that the lake was more like the first, with very steep sides.

From what I saw, and heard, I have no doubt that, scattered through the Kirin forest, or at least that part of it which lies to the west and north-west of the Ever White Mountain, (Lao Pei Shan) is a system of extinct volcanoes, varying in size, many of which contain lakes in their dead craters.*

James in his description of the Ever White Mountain, or, as he calls it, Long White Mountain, pictures very vividly the lake which occupies its crater. It has been left to the Chinese to form the quaint conceit of its being the parent of all the other lakes, large and small, scattered throughout the district. And who knows how near the truth they may be? By subterranean passages, now filled with cold or cooling lava, the whole series may be connected with the one vent that finds egress mid the pumice peaks of the Great White Mountain.

In connection with the idea in the Chinese mind of parent and offspring lakes, I should mention a series of small lakes that I discovered in the mountains of the Ning-wu Fu district in Western Shansi in the winter of 1909-10. There were five altogether, and of these the largest was known as Mu Hai Tzu, literally, Female Sea, and the second in size as Kung Hai Tzu, Male Sea, while the others were always referred to as the Shiao Hai Tzu or Small Seas, meaning the young ones of the other two.

Another interesting point in Chinese descriptions of lakes is that they almost invariably say they are bottomless, and are connected with the Ocean. In the case of the Kirin lakes, as already stated, the connection is with the Dragon King's Lake in the crater of the Lao Pei Shan.

* In this connection it is interesting to note that Mr. Roy C. Andrews in an article in the National Geographic Magazine, Vol. XXXVI, No. 1, July, 1919, describes the finding of three lakes to the south of the Lao Pei Shan (Paik-tu-san), called the Samcheyong, which he says "seemed to have been formed by some violent eruption of the Paik-tu-san many years ago, for the basins and shores were of volcanic ash, and my gun-bearer said that if we dug down about 12 feet charcoal would be found." He says that one of these lakes had an island in the middle of it.

CHAPTER VI.

The Forest Primeval.

This is the forest primeval. The murmuring pines and the hemlocks
Bearded with moss, and in garments of green, indistinct in the twilight
Stand like Druids of old, with voices sad and prophetic,
Stand like harpers hoar, with beards that rest on their bosoms.
Loud from its rocky caverns, the deep-voiced neighbouring ocean
Speaks, and in accents disconsolate answers the wail of the forest.

—*Longfellow.*

CHAPTER VI.

The Forest Primeval.

Manchuria at one time, and that not so very long ago, was, with the exception of the plains, and the desert area in the west, entirely clothed with forests as dense and extensive as those of Siberia and the coastal regions across the Pacific.

Since that time, however, the representatives of the great nations, Russia, Japan and China, have exploited the magnificent timber reserves, and to-day considerable areas of the country exist as good, arable land. A great influx of Chinese farmers and settlers followed the pioneer woodsmen, and where the latter cut only the timber that they could sell, the former cut and burned systematically in order to clear the ground for the plough.

Despite all this, however, there remain several really extensive forested areas extending throughout the provinces of Kirin and Heilungkiang, and it is with one of these, which may be taken as more or less typical of the whole, that this chapter deals: the one chosen being that known as the Kirin Forest, and the journey into which has already been described.

The great Kirin Forest, in which I was now working, has been estimated as covering an area equal to that of Scotland. It occupies, roughly, the upper basin of the Sungari River and half that of the Upper Yalu, covering, as will be gathered from the last chapter, a system of volcanic mountains and hills, differently named in different parts, but which have for their centre the culminating peak of the Ch'ang Pei Shan, the Lao Pei Shan, or as the Coreans call it, the Pak-tu-san, or Lao Pak San.

It is rather a peculiar thing that all the earlier writers who mention the Ch'ang Pei Shan, have translated it the *Long White Mountain*, whereas the true interpretation should be the *Ever White Mountain*. The Chinese character 長, Ch'ang, means *ever*, *always* or *continued* as well as *long*. It is easy, then, to see how that, since the five crests of the mountain are white all the year round, owing to their being composed of pumice, the idea in the Chinese mind in using the word *Ch'ang* should be that of *eternity* rather than that of *length*, especially when there is nothing whatever about the mountain, or the system to which it belongs, to suggest length.

The first Europeans actually to ascend this mountain were the three explorers James, Fulford and Younghusband. The Jesuit missionaries Regis, Jartoux and Fridelli, while carrying out a survey of Manchuria for the Emperor Kang Hsi, viewed the peaks from a distance, but did not make the ascent.

Though in more recent times a few travellers have claimed to have made the ascent of the Ever White Mountain, there seems to be no authentic account of any such accomplishment extant.

From the descriptions of the travellers already mentioned it may be gathered that the whole of the surrounding districts, right up to within a very short distance of the summit itself, is one vast, impenetrable forest of great age, composed of enormous trees of many species, oak, walnut, pine, spruce, and, high up on the slopes, larch. A meagre population of woodcutters, hunters and *jenseng* seekers are scattered throughout the district, which also affords a retreat for *hunghutzu*, or bandits, renegades, and exiles.

The fauna and flora appear to be much the same everywhere throughout the forested areas, so that a description of the species which came under my notice in the parts I visited will serve to give an idea of the natural history of the whole.

As a matter of fact, many of the mammals which I secured have been referred to species originally described from Corea, from which it would appear that the latter country comes under the same faunistic area as Manchuria, though only in the north is it heavily forested.

On our arrival at the farmstead of the Liu family, we made ourselves as comfortable as possible, and then commenced a thorough exploration of the immediate vicinity, which, by the way, was known to the Chinese as Yu-shu-ch'a. By we I mean myself, servants and a little hunter, whom I engaged to guide me through the forest. The Major, after having visited the first lake with me, and subsequently having wandered in the forest for a couple of days in search of bear or wild pig without success, decided not to waste any more time in what appeared to be a futile quest, and so returned by the way we had come to Ch'ao-yang Chên, thence to continue his journey to Europe *via* Harbin and the Trans-Siberian Railway. For the rest of the time I spent in Manchuria this summer I carried on my work alone, so far as any companion of my own nationality was concerned.

As usual I lost no time in getting my traps out, and, with the little hunter, whose real name I never knew, but who was generally known as Ch'u Pa Shih, a colloquialism meaning 'workman' or

The Author's Body-guard, who were afraid to accompany him into the Forest, W. Kirin.

Log-hut and new clearing in the West Kirin Forest.

'labourer,' one who owns no land and who therefore has to work for others, as faithful guide and companion, commenced operations.

Liu's clearing was a large one, but it was bordered by forest as dense as the most ardent woodsman could desire. As a matter of fact it was a great deal too dense for comfort. Enormous trees of pine, spruce, oak and walnut comprised the timber. Many of these were from four to six and even eight feet in diameter, while their heights must have been from a hundred to a hundred and fifty feet, some probably much taller. Of these the magnificent Corean pine (*Pinus koraiensis*, S. & Z.), with its huge cones and large, edible seeds, was perhaps the finest tree in the district, though the spruce (*Picea hondoensis*, Mayr.), and silver fir (*Abies holophylla*, Max.) were also splendid in their stately grandeur. The remains of still greater trees, which appeared to have fallen from sheer age, lay in every direction.

The secondary timber, that is to say, the smaller trees, which, in the event of the forest being exploited for lumber, would either be left standing as useless, or else cut up into cord-wood for fuel, was composed mainly of different species of maple, poplar, birch, wild pear, and crab-apple. These filled up most of the spaces between the giants, while a dense breast-high jungle of underbrush, and scrub composed of a host of shrubs and creepers, such as hazel, alder, elder, lilac, and wild grape-vines, together with the windfalls and rotting logs made an almost impossible bar to progress, excepting along the very few beaten paths.

Thus the work of hunting through the region was very arduous, and, but for occasional clearings, cut by some former, long-departed inhabitants, or left by the devastating forest fires, it would have been practically useless.

It was impossible to see more than a few feet ahead; while, move we never so cautiously, the noise we made always warned any quarry that we might be tracking in ample time for it to make its escape. Fortunately for my collection, however, in so wild a spot the birds and small mammals are usually inclined to be fearless of man, so that I was able to observe and secure several interesting species. Many times, as I wandered through the forest, I would hear a flutter of wings, and then a low booming, humming call, which, having a wonderful resonance, would make the whole air vibrate. Time and again I tried, without success, to locate the origin of this extraordinary sound, that could be felt as well as heard. At last, one day, through a rift in the dense pall of leaves overhead, I caught a glimpse of a barred breast and a grey

form hovering, hawk like, in the air, while the puzzling sound boomed out. The grey form flew off to the topmost branch of a tall, dead walnut tree, and gave me the opportunity I sought. I raised my shotgun and brought the bird down, and after a long search in the underbrush, found a cuckoo, which was subsequently identified by my friend Mr. La Touche as *Cuculus intermedius*, Vahl. The mystery was solved.

Once on the way home from a long day's tramp a most outrageous chattering and scolding drew my attention to a miniature whirlwind of feathers and dried leaves on the ground a few feet away. Two jays were fighting over something that one of them had found, or it may have been a conjugal difference. I stood an interested spectator, and when the dispute was settled, and the belligerents sat on different branches scolding each other, I quietly added one of them to my collection. Hitherto I had but seldom seen these interesting birds, the jay, especially, being one of North China's *rara aves*, occurring only in remote mountainous districts. Later in another part of the forest I found this same beautiful bird, marauder and jester in one, extremely abundant. It closely resembles the European species in general appearance, but a closer inspection reveals the fact that it is more intensely coloured, the blue on the wing being more extensive and the secondary wing feathers having a rich bronzey colour. There is also a broad white patch on the wing, and the tail feathers are sometimes barred blue at their base. The crest and breast are more of a foxy-red, and the back more grey than in the European form. The species is known to science as *Garrulus brandtii*, Eversmann.

Another bird which I was glad to get was one of the great black woodpeckers (*Picus martius reichenowi*, Kothe). This handsome, black, crimson-crested bird, of the size of a crow, and as lively as any of its smaller cousins, was not very common in the district, and the specimen I secured was brought to me by a local sportsman.

One day I tried a long shot at a couple of rollers, high up in a walnut tree. One of them came tumbling down, but recovered sufficiently to flutter off into the brush where I lost it; but next day a small son of Liu's brother brought in a wounded bird of this species, which being only slightly hurt in one wing, I tried to keep alive. I could not get it to eat, and it died after a day or two, being duly skinned and put away in my collecting box. This, one of the most beautiful of the birds that visit and breed in Manchuria, has the head black, back and breast green, throat mauve-blue, the

wing and tail feathers being several shades of blue, from deep ultramarine to pale electric blue, while the strong, broad hook-tipped bill, the eyelids, and feet are of a fine orange-red or vermilion.

My traps yielded a few mice and voles, but nothing of very great interest. Somehow I could not discover the right places to set them. There were remarkably few signs of mammals, no tracks, recently used burrows, or even the little runways and paths in the grass. Of one small mammal only were any abundant signs. This was the mole. Everywhere in long winding chains were the characteristic ridges of newly turned earth, but though I resorted to every means I could think of to trap one of these animals I failed. I tried each of my different traps; set them in every possible position, hidden and exposed, above, below, to either side and actually in the tunnels. I placed them carelessly at the mouths of the borings, or cunningly hidden with tempting bait of juicey meat, worms, grubs and even fruit. I set snares of wire and string by inserting them down through carefully made crosswise incisions in the roofs of the burrows, taking the utmost care not to disturb any earth—but the result was always the same. Whenever a trap or snare was encountered, the mole just burrowed underneath it. One trap set below another also failed. The cunning creatures only bored the deeper.

However, a specimen was finally secured by one of the farm labourers, who turned it up one day while ploughing. When I got it it was in a paroxysm of rage, snapping furiously, biting itself and everything that came within reach of its sharp teeth. I have always found this the case with moles. When captured they seem to go mad, just like a cat in a trap, and, unless put away and left unmolested, die apparently from sheer exhaustion. The specimen was a large one being some variety or sub-species of Nehring's *Mogera robusta*. The local Chinese name for the mole was *Hsia-pung-ch'u-tzu*, and refers to the creatures supposed blindness. Why my traps and nooses failed so completely is still a puzzle to me, for apparently in other places they enter traps readily enough. Here in Manchuria they seem to detect and take warning from the least taint of man. It was sufficient to make them bore a new tunnel under the old merely to place a small clod of earth in their runs. One thing seems certain; they must have an abundance of food in the way of worms and grubs in the moist rich earth, which fact doubtless makes them fastidious, and so saves them from taking bait.

While on the subject of moles, I would like to point out that their movements give wonderfully accurate indications of what the weather is going to be. In dry weather they bore deep, seldom along the surface, so that no fresh ridges of new-turned earth occur; but on the approach of, and during, wet weather they keep very close to the surface, and the freshly turned ridges may be seen everywhere. Undoubtedly they carry out these manoeurves in their ceaseless search for worms, so that, though they give the sign, it is the worms that actually forecast the weather conditions. Doubtless it is the degree of moisture in the air, and consequently in the soil, to which the worms are sensitive.

Chipmunks were very plentiful in this region; indeed they are plentiful in most places in both Manchuria and North China. Lively little fellows, living as much an arboreal life as a terrestrial one, in spite of the fact that they are known as ground-squirrels, they are amongst the first animals to attract the traveller's notice, excepting, of course, in winter, when they hibernate.

Several chipmunks have been described from North China and Manchuria, all being subspecies of the Asiatic form, *Eutamias asiaticus*. That from Manchuria is known as *E. a. orientalis*, and differs from the other more westerly forms in its more intense colouring. It has a warmer colouring, while the black lines are broader and more distinct.

The habits of these charming little creatures are very much those of the common squirrel, with the exception of hibernation, and the fact that they have their homes in burrows in the ground, instead of in holes in trees, and nests. The burrows are excavated by the chipmunks themselves, and contain sleeping, as well as store, chambers. In the latter they store away nuts and seeds for winter use, in the gathering of which they use the huge cheek-pouches, with which nature has furnished them. It is in this particular that they chiefly differ from the true squirrels, though there is a connecting link in David's squirrel, (*Sciurotamias davidianus*), which closely resembles the true squirrels in size and appearance, but is related to the chipmunks in having well developed cheek-pouches, and in living in burrows.

Most of the chipmunks I secured were taken in traps set on fallen logs or the stumps of trees.

In the forest, especially about the pines and spruces, I occasionally caught glimpses of the large, grey fur-squirrel (*Sciurus vulgaris mantchuricus*, Thos.); but I did not get a shot at one, nor

did I catch any in my traps. One of the soldiers brought me a fine, large specimen, however, which he had shot with his rifle. As I had a better opportunity of studying these creatures on a later expedition, they need not be discussed here.

Altogether five different species of mammals were secured in this area, a rather disappointing result of the work put in. It must not be imagined that there were no other mammals to be found; for roedeer and wapiti were fairly common, to judge from their tracks about the place, as well as bears and wild pigs. Owing to the season I purposely avoided hunting the deer, but I spent many a day trying to come up with some of the two latter.

Little Ch'u Pa Shih led me on many a long tramp, and on more than one occasion we found fresh spoor and pig-wallows, or came across the broken limbs of fruit trees where bears had been after the berries.

One day we found a wild pig's rubbing tree. This is usually a stout young pine or spruce of from six inches to a foot in diameter, and upon its rough bark all the pigs in the district rub themselves till it gets worn smooth. The old tuskers scour the bark with their tusks, and from the depth of the gashes and their height above ground the size of the individual that made them may be estimated. The bark on the tree we discovered was rubbed off up to a height fully four feet from the ground, and there were tusk marks above this, so that one, at least, of the pigs that used it must have been a monster.

The tree itself was situated at the edge of a long deserted clearing, in the middle of which lay the remains of a log hut. How long it was since the latter had been tenanted might be gathered from the fact that a good sized walnut tree rose from amidst the ruins. As one gazed upon them, and remembered how comparatively recently the district had been reopened by Chinese settlers, one could not help feeling that these mouldering logs, had they but the power to speak, could tell a tale of strange people and a stranger life. What made those early inhabitants desert their home in the forest? Was it but another case of the jungle's conquest over man? Had the jungle risen against the disturbers of its eternal peace, and blotted them out, as is described by our poet of India, when he makes Mowgli, the Frog, sing:—

> I will loose against you the fleet-footed vines—
> I will call in the Jungle to stamp out your lines!
> The roofs shall fade before it,

The house-beams shall fall,
And the Karela, the bitter Karela,
Shall cover it all!

There were the fleet-footed vines, a tangle of sinuous stems completely hiding one half of the ruined walls, and certainly the jungle was rapidly stamping out the lines of the once picturesque cabin. The logs themselves crumbled away under one's foot, a soft mouldering mass; while the great black snakes, and long-tailed lizards hid beneath them as we approached. Giant ferns lifted their graceful fronds from well rooted clumps, and even the slipper orchid had found a footing.

Ch'u Pa Shih, who said he had come to this district as a hunter twenty years ago, before any of the settlers, could tell me nothing of the place, except that it was there when he came, and had always been as it now was. I could picture some wild woodsman of the Tartar type, hunting with bow and arrow, and roughly tilling a small area of ground in which to grow maize, or some other cereal requiring but little attention. I could imagine his battle for existence, his final defeat, and the quiet, steady invasion of his home by the slow forces of nature. Or it may have been the last home of some wretched exile, driven into the wilds by a vengeful government, or yet again it may have been the summer retreat of some band of marauding robbers. Whatever it was, the place was a fitting subject for speculation, and the chief wonder to me, supposing Ch'u Pa Shih's statement to be true, was that those logs and beams, all that was now left of the building, had lasted so long. I afterwards learned that there are many such grim relics in the Manchurian forests.

I set a large bear-trap beneath the pigs' rubbing tree, and visited it several days running, but during that time nothing came near the place. Doubtless the hoary old tusker was away in the depths of the forest, with a younger boar or two keeping him company, as is usually the case, while my lady, the sow, with a large family of fifteen little porkers, all striped like chipmunks, hovered round the clearings further down the valley. I knew she was there, for I frequently found her tracks, and those of her numerous progeny; but she was much too wide awake to let me get a glimpse of her precious brood. As a matter of fact there would probably have been serious trouble had I ever come up with them, for I badly wanted one of those little pigs alive, and a wild sow in defence of her young is a formidable opponent. Even the old boar with his terrific tusks has to keep out of her way.

Once I thought I had found my quarry, as an angry grunt sounded from the dense underbrush, and a large, black animal came charging out, but it was only Liu's old sow, who, with her half dozen babies, had wandered rather farther than usual in search of sylvan dainties. She was very angry and gave me a good idea of what I might expect if I ever did meet her wild cousin.

It must be explained that the settlers were in the habit of allowing their domestic pigs to wander about at will during the day. This actually leads to their mating with the wild swine, a proof of which I found in the fact that the young of the domestic pigs in this district were frequently striped like those of the wild species. As the domestic pigs in this district were of the same species as that kept all over China, a very different animal from the European domestic pig, and one whose progenitors were in no way related to the *Sus scrofa* group, to which the wild swine of these countries belong, it is not the least bit likely that these striped, and small-eared youngsters could represent a reversion to ancestral type by reason of the semi-wild state under which their maternal parents were living. I have never come across them anywhere else than in or near the forested areas of Manchuria, where wild swine are plentiful, and the domestic pigs are allowed to run untended in the forests. The Chinese also told me that the domestic and wild pigs frequently mate.

In hunting for bears I was as unsuccessful as with the pigs, which I put down to the denseness of the underbrush. More than once I actually heard the peculiar *woof woof* that a bear makes when disturbed, yet I saw nothing. The bear is a peculiarly short sighted animal, but this defect is more than compensated by his extraordinarily keen sense of smell and his acute hearing. And besides, though he may scale anything from two hundred to a thousand pounds, according to the species to which he belongs, he can move through the densest jungle with a speed and silence that baffles the ablest hunter. It is only when he comes out upon the ripening maizefields, where lies a rich store of his favourite food, that he seems to throw caution to the winds, and while gorging upon the milky cobs, becomes an easy prey. He may also be shot in the late autumn, after the leaves have fallen and before he retires for his winter sleep, for then the hunter may see a considerable distance ahead of him, as he wanders through the woods where the acorns and pine-nuts lie thickest. Otherwise dogs are necessary in the chase, and even so it takes a well trained pack to

work properly through the woods, and to find and "tree" or hold the quarry at bay till the hunter comes up.

Not one of these conditions favoured me, nor could I muster a pack of dogs. Rastus, my old pointer, could not be induced to leave the farmstead, and even if he had accompanied me he would have been of little use. It is not to be wondered at, then, that my hunting proved so unsuccessful.

As a matter of fact I did get two bears, but they were babies, whose mother had been killed by a Corean, and who were brought to me at the bottom of a big wicker basket and offered for sale. I shall never forget the look in their 'little swinish eyes,' as I took off the lid and peeped in. It was exactly that of a wilful child expecting a whipping, but defiant and prepared to resist. And fight they did when their captor tried to get them out for exhibition, nor did all the cuffs and kicks they received cow them in the least. I bought them both out of sheer pity for the way they were being treated, and transferred them to a corner of the general living room, where they at once began to get into mischief. It was not long before I found a weak spot in their armour of sullen reserve and hate. Somewhere down in their wicked little natures was an inordinate love for sweets, and I rummaged round in my meagre supply of stores till I found a tin of jam. The first taste of this reduced the elder, which was a male, to an abject, whimpering supplicant, and the way he handled the tablespoon full of the delicious substance which I gave him sent everybody into shrieks of laughter, and won for him a place in the affections of us all. When his sister's turn came he gave a very fine exhibition of original sin, seizing my knee with his teeth and clawing and tearing in a frenzy for more jam. His sister seized my hand instead of the spoon, and inflicted a severe wound, so I bethought me of Kipling's 'Truce of the Bear' and named them Adam and Eve.

Adam was not so bad and soon got over his evil ways and became friendly and excessively playful, though his temper was always short, and one never knew when he would break out into savagery. With Eve it was very different. She never got any tamer and right to the last fought and bit and slapped with her well armed paws whenever she was fed or handled.

They belonged to the species *Selenarctos ussuricus*, Heude, which is the common black bear of the Manchurian region. Pure black in colour this species has a white crescent on the chest, and usually a white chin, being a close relation of the Himalayan black bear *S. thibetanus* Cuv. often called *Ursus torquatus*, Blan.,

to which species the Manchurian form has generally up to the present been referred, but from which it differs in its larger, heavier teeth, and certain cranial characteristics.

Adam went with me to Tientsin, where he grew at such a pace, and pretended to be so fierce, that my neighbours began to get nervous, and finally he was deposited in one of the local public gardens. He was placed in a large cage with a fine old lady of his own species. Within a week he had reduced her to a state of abject submission and adoration, though at the time she could have found room comfortably for him inside her rotund person. When I last saw him he weighed a small matter of three hundred pounds, lorded it over his companion, and was taking largess in the way of buns, eggs and fruit with admirable suavity and imperturbable good nature from his many little friends who came to see him on Sunday.

As for his sister Eve, she is probably wandering about somewhere in the great Kirin forest, if she has not succumbed to one of the Corean's bombs, such as killed her mother, for on our way out of the forest she managed by some extraordinary contortion of her small body to get through a crack in the side of the cart. The rope round her neck, instead of strangling her, conveniently broke, and before anybody realized it, she had run off into the woods and made her escape.

The reference to the Corean's bomb calls for an explanation. It seems that the Corean hunter makes a small bomb which he coats with thickened linseed oil and honey. This is hung at a convenient height from the ground along some bear-path, and when a bear passes, smells and seizes it in his jaws, it explodes, shattering the victim's skull, without in any way injuring the skin. It is a brutal device, for often it fails to kill the victim, though it always breaks the jaws. I heard of one man, who had served a bear thus, but on going up to his prize, which lay apparently dead, had his thigh ripped away by one last, vicious stroke of the dying animal. Later, when they were found, hunter and bear lay dead beside each other.

It is said that tigers, as well as foxes, wolves, and other animals will also take the bombs.

I found that young bears of a suitable age are much in demand by Chinese, who knock out their teeth, put rings through their noses, and sell them to travelling conjurers and showmen. The wretched animals are led from town to town all over China, and exhibited before pitiless crowds at fairs and other gatherings.

They are beaten, tormented, teased, and starved into docility; are made to dance upon their hind legs, and are forced to march over miles of stony, dusty roads, till, at last, merciful death releases them from their misery. Surely the swift bullet of the hunter is a better fate than this.

Even the fate that is meted out to a captive bear by the aboriginal Tartars of Manchuria seems preferable to the prolonged agony of the show-bear's life. The Giliaks and other tribes of the Amur region, when they capture a bear cub, feed it up well for three years, after which a feast is announced. The bear is led from dwelling to dwelling, receiving delicacies at each, till all are visited. Only then does the cruel part come, for the animal is tied to a tree, and shot to death with arrows, after which it is eaten.

Poor Bruin! his is indeed a heritage of hate, and rightly so, for his ancestors, the giant cave bears, in their day were primitive man's most dreaded enemy, and even now, in regions where bears are plentiful, the latter still do great damage to the crops, if not to the flocks and herds of the local human population. Many a hunter carries frightful scars on his body, eloquent records of some savage encounter with the bear; many another has gone out into the woods never to return, his remains being discovered later by his friends, and beside them the tell-tale spoor of his hereditary foe.

Though I failed to secure much in the way of mammals and other of the higher types of animal life, it must not be supposed that the time spent in their pursuit was altogether wasted. As a naturalist I have seldom enjoyed anything so much as those days spent in wandering through the forest. The insect life was wonderful in its abundance and variety. Innumerable butterflies filled the open glades, fluttering in their crazy, irresponsible way through the sunlight; dancing from flower to flower, and sipping their fill from the brimming cups of nectar. There were dozens of different kinds, ranging from great, black swallowtails down to the smallest fritillaries. Though I made collections of these winged marvels, I have been able to identify but few of them, for, owing to an unfortunate accident, nearly all my specimens were destroyed. The majority of the species appeared to be closely related to, if not identical with, British or European forms; but here and there an unfamiliar shape would present itself. It reminded me of a journey in Kansu, the western-most province of North China, when my party reached some isolated valleys of wonderful fertility, like oases in the desert. Here the butterflies simply swarmed, as though

Chu Pa Shih, the little hunter with a bunch of Lilies-of-the-Valley.

Employees outside the Wooden Stockade of Liu's Farm, W. Kirin Forest.

they, too, were making a last stand against the howling, sterile wilderness, invading from the North. We took heavy toll of their numbers, only to find that each species had almost its exact counterpart in the British entomology.

Of the butterflies in the Manchurian forest, the largest, and handsomest is *Papilio maackii*, Men., the fine black swallowtail with red spots on the posterior wings, and along the body. A little smaller is her mate, whose wings, especially upon the upper surface, are shot with a fine metallic green, showing blue at certain angles, gold at others. The dots or eyes on the posterior wings are orange and purple, so that altogether he is a handsome fellow. Both of these were to be found only in the vicinity of water, and were particularly abundant along the shores of the crater lakes, described in the last chapter.

Perhaps the most interesting butterfly in the district was one with transparent wings and a black and yellowish body, for it thus closely resembled a species of *Ascalaphus*, that abounded in the same clearings. It might be argued that the *Ascalaphus* resembled the butterfly, but, be that as it may, the case appeared to be a most remarkable one of mimicry. So similar were the two species that I did not detect the difference in them till I had caught specimens of both; and even when I knew that two widely separated forms were thus flitting about side by side in the open glade, I found it very difficult to distinguish between the two. It may be that one of the species possessed qualities of flavour or some other feature disagreeable to their natural enemies the birds, the other benefiting by its resemblance to the noxious insect; but as I had no caged birds on which to try them, there was no means of investigating the problem further. Of the two the *Ascalaphus* seemed to me to be the more differentiated from its nearest relations, for not only were its wings broader and shorter than is usual with the *Neuroptera*, the body was short and hairy, while the antennæ were long and knobbed at the end like a butterfly's, instead of tapering, as in other members of the order. The butterfly, on the other hand, showed a narrowing of the wings, which, being transparent with the exceptions of their margins, and well veined, had a strong resemblance to those of the *Ascalaphus*.

In addition to this species of Neuropteron, there were a number and variety of dragon-flies, of which the most striking was the black *Agrion*, whose blackness, in the sunlight, turns to a brilliant metallic green or blue, and whose broad wings and long, slender abdomen render it a thing of exquisite grace and beauty.

Besides butterflies and dragonflies, beetles were very numerous. Most conspicuous of these was a species of shard beetle, *Geotrupes auratus* Mots., whose shiny armour reflects in turn all the colours of the rainbow, but which may be described as of a general purple-black. So intense was their colour, that the beetles, as they swarmed along the paths, glowed like gems, and, when they took to flight, and passed out into the sunlight, flashed like burnished gold. Beside these jewels every other Coleopteron paled into insignificance, but there were many interesting kinds, about which more anon.

The flora of this region was of intense interest, but as I am dealing with it at some length in a separate chapter, I will content myself with saying that in luxuriance of growth and variety of species, it is doubtful if any palœarctic country in the Old World or the New can out-rival Manchuria. The rich black soil, formed from decomposed basic rocks, the abundant water supply, and the almost tropical summer heat, are largely responsible for this. Settlers find that the mere clearing of the timber, the careless, almost haphazard sowing of seed, and a certain amount of hoeing to keep down the growth of weeds, brings them good harvests; and there is little wonder that the fame of this virgin country has spread far and wide, annually drawing from the adjacent provinces of North China thousands of immigrants. That the Manchurian forests are doomed to annihilation is certain, for not only is the rich soil on which it grows attracting Chinese settlers, but Europeans are beginning to realize its possibilities. Scientists tell us that the country lies in the path of the world's wheat belt, which commenced in Southern Russia, spread through North America and is now due to occupy Siberia. In one place in Heilungkiang province a European company has actually started operations in farming on a large scale. In my wanderings I came across numerous and sufficient signs of the lumberman's handiwork to show that he too is alive to the possibilities of these grand old forests. In the Yu-shu-ch'a district there were one or two long avenues leading up to the divides, into which small side paths turned. Ch'u Pa Shih said these had been cut a winter or two before by woodsmen for hauling out large timber when the snows came, but that, as yet, comparatively little actual timber cutting had been done, except by the farmers when making their clearings.

In one place, where a freshly beaten trail led to a small open glade, I found four or five natives engaged in the manufacture of

The Siberian Slipper-Orchid. (*Cypripedium macranthum*, Swartz).

wooden water-dippers, and soup ladles. These were made from blocks of soft pine, and the manufacturers, by the rapid and dexterous use of adze and axe, turned them out at the rate of about two hundred a day. While still in the rough they were put into a stream and floated down to a more suitable spot, where another native turned them off to the required finish, and stacked them ready for transport.

In connection with the botany of the Yu-shu-ch'a district, and, indeed, of the Kirin forest generally, there are a few features that call for special mention. One of these is the marvellous abundance, wherever suitable clearings occur, of the lily-of-the-valley. I came across one hill-side, which had been cleared of its original heavy growth by fire, where, stretching over an area of several acres, was one huge bed of these beautiful blooms. The air was heavy with their perfume, and I gathered large bunches with which to decorate my dwelling quarters.

Another beautiful plant which I found here was the large slipper orchid (*Cypripedium macranthum*, Swartz.) whose single bloom measures some four or five inches across. This plant occurs in the damp ravines in the heart of the woods. The Chinese called it *Kou-lan-tzu-hua*, meaning, I believe, Dog-basket flower.

Besides these two there were several other handsome flowering plants in full bloom. Of these the trillium (*Trillium obovatum*, Pish.) with its large, white, three-petaled blossoms, and the white peony are most worthy of mention. On the slopes wild lilac, both white and mauve, was in bloom, the bushes forming part of the thick underbrush.

Fungi of various species, edible and otherwise, were abundant, there being one peculiar form, which, when dried and ignited, would give off a peculiar sweet-smelling smoke, which effectively drove away mosquitoes and midges, pests that abounded in the district.

Life at the Liu farmstead was very pleasant, for Liu and his brothers were most genial people, and did everything they could for my comfort. What with the farm employees and my dozen or so soldiers from Hui-nan Ting, and the military stockade, the place was far from dull. It was due to the fear of *hunghutzu* that my guard was so strong, but, for all the good they were, they might just as well have stayed in the stockade. They began by begging me not to go into the woods, but to keep to the clearings. When they found that I was bent on exploring the neighbouring forest, they decided to accompany me, but the first half day's

tramp was sufficient for them, and thereafter they kept to the farm, contenting themselves by practising with their rifles on sparrows or distant tree trunks.

Nevertheless, that there were some grounds for their anxiety on my behalf soon became apparent, for we began to be troubled by reports of robbers. Ever since our arrival in Ch'ao-yang Chên, our ears had been filled with tales of the horrible atrocities of these 'gentlemen of the road,' but as their reported numbers dwindled the nearer we got to their haunts, naturally we supposed the tales to be gross exaggerations.

However, after having heard a considerable amount about them, making numerous enquiries, and carefully weighing the evidence, I do not hesitate to pronounce the Manchurian *hunghutzu*, or red-beards, as they are called, to be brigands and robbers of the worst type, though perhaps not the most dangerous. Some of their leaders have held official rank under the Government, and are out against law and order for purposes of revenge against some injustice, real or imaginary. These men are often of a better type, and rob only wealthy merchants and officials.

Unfortunately this sort form a very small minority of the many thousands of robbers that exist in Manchuria. By far the greater number are robbers simply for what they can get out of it. They are fiendishly cruel, cowardly, and merciless in their depredations. They attack rich and poor alike, and will roast over a slow charcoal fire the luckless small farmer to extract his last dollar, as readily as they will treat with boiling oil or red hot shovel the wealthy merchant, who is unfortunate enough to fall into their hands.

During the winter these ruffians collect in large bands, and harry the plains. They appear and disappear as if by magic. They are well mounted and armed with the best modern rifles, and know every inch of the country over which they operate.

In summer they retire into the forests, where they prey upon the settlers, or, when in sufficiently large numbers, raid the adjoining settlements and towns.

The reason for the change from open plain to forest is that, in winter, when everything is frozen they can ride at will across country, while in summer they would have to keep to the roads, and so would fall an easy prey to the large bodies of troops that are always on the watch for them.

Just the reverse is the case in the forest. In winter, owing to the deep snow they would have to keep to the paths, while the

absence of foliage would make hiding difficult. In summer they need not keep to the paths, and the dense foliage affords splendid cover. Thus it will be seen that from this point of view I had chosen the worst time of year to visit the forest.

A vigorous campaign against the local *hunghutzu* by the Hui-nan Ting and Ch'ao-yang Chên troops during the spring had led to the death of two notorious chiefs, and the scattering of their bands; but now the latter were beginning to gather together again. I had not been many days in the vicinity, when I received word that a party of seven *hunghutzu* had been inquiring about me at a farmstead not more than a mile away. They wanted to know whether I was armed, and if I had any money, and so on. Next, a party of six raided two farms within a short distance of us, one of which was owned by Liu's father-in-law. This old man they had forced to sit on a red hot shovel because he could not give them more than ten dollars. They also had inquired about the foreigner staying at Liu-chia-tien, what were his habits, when did he go out, and so on On the day that I visited the second lake, I came across a small clearing and cabin, where I stopped for a drink of tea. The woman of the place, who waited on us, told me that not half an hour before six bandits had fed and drunk tea at the very table at which I sat, and that five of them were armed. Finally word came that a large band of thirty *hunghutzu* were gradually working towards the district. Just about this time ten more soldiers came up from the stockade, bringing my total body guard up to twenty two, as two of the horse soldiers had returned to Hut-nan Ting. The reinforcements brought with them a letter from the officer in charge of the stockade, asking me to return, as he was very anxious for my safety. However, as I had not completed my survey of the district, I refused to be frightened into running back to shelter; but hung on for several more days, continuing my trapping and tramps through the forest. But one day little Ch'u Pa Shih refused to accompany me. He said that he had been warned that he would be held responsible if I were attacked and killed by the bandits. Liu also begged me to leave the district, as he said my presence might bring trouble on all concerned.

However, I stayed on another couple of days, while I got in my traps, and finally, on June 7th, I packed my belongings, and, having once more secured Liu's cart, started on the return journey to Ch'ao-yang Chên.

Another reason which helped to bring me to this decision, for I was loath to leave this beautiful district, was the necessity of getting away before the heavy rains set in, which would make it impossible to travel at all by road till late in the autumn. As it happened I was not a day too soon, for it commenced to rain half an hour after our start, and from that date on till July 10th it rained every day.

The journey out from the forest was more interesting in a way than the one in, chiefly, I think, because with a better cart and mules, and a driver that knew his work, I was more free to take stock of the things we passed.

We had one accident with the cart, however, while crossing one of the nigger-head swamps. The whole contrivance turned over, completely submerging one wheel, and nearly killing the shaft mule. It was only with the greatest difficulty that we extricated cart and mule from the swamp, but the work of rescue was accomplished at last, and we were able to continue on our way.

I noticed a great many interesting plants in these swamps and along the open hillsides, but bird life, owing, doubtless, to the termination of the migratory season, was much less evident than before.

Along the stream the Coreans, who seemed rather numerous in this district, were doing a lot of fishing; but I foolishly neglected to secure specimens from their catches, an omission which I took good care to rectify on my subsequent journeys. It was here that I saw for the first time a beautiful fish, which, for want of any other name, I call the rainbow carp, afterwards identified as *Zacco platypus*. Here, also, I actually saw the natives fishing for trout with artificial 'flies,' and good catches they were making. Some of the trout were about eighteen inches in length.

Not far from Hui-nan Ting I was afforded an exhibition of typical Chinese brutality. The two horse soldiers were walking with me a mile or so ahead of the cart, when one of them suddenly stopped a young fellow going in the opposite direction. It seemed that he had passed us earlier in the day on his way, as he said, to see a friend in Hui-nan Ting. The fact that he was returning to the forest so soon roused the suspicions of the soldiers, and they accused him of being a robber spy. Without more ado they searched him, and finding nothing in particular that might have compromised him, set about him with the butts of their rifles. There was no justification for their action, and but for my interference, I believe they would have broken his legs. Before I had realized

Trillium obovatum, and other ground growth in the West Kirin Forest.

The large Slipper Orchid (*Cypripedium macranthum*, Swartz), W. Kirin Forest.

what they were about they had banged him on the knees and shins so savagely that the blood came through his trousers; nor, even after I had stopped their brutal attack upon him, would they allow him to attend to his hurts, but marched him along the road at the points of their loaded rifles. As they declared him to be a *hung-hutzu*, I concluded that they had some reason for their statement, but when the cart overtook us, one of the Liu brothers and the carter immediately identified him as an employee of one of the farmers up the valley. The wretched fellow was then allowed to go free, while I told the soldiers what I thought of them and their behaviour in my very best Chinese.

At Hui-nan Ting where we had to spend a night, I was shewn a magnificent wapiti stag, the property of the local military chief. It was too timid for me to attempt to measure it, but it must have stood at least fourteen hands at the shoulder. Its horns, of course, were in velvet, and they told me that they would soon be ripe for shearing off, when they would fetch the equivalent of £10 at the apothecary's.

A few hours later we reached Ch'ao-yang Chên once more, and I was glad enough to exchange, for a few days at least, the more than doubtful joys of a woodsman's life for the comforts of a modest, though decidedly hospitable, missionary home.

And so ended my first experience of the great Manchurian forests.

CHAPTER VII.

Down the Hui-Fa Ho to the Sungari River.

So for one the wet sail arching
Through the rainbow 'neath the bow.

. . . . . .

—*Kipling*

CHAPTER VII.

Down the Hui-fa Ho to the Sungari River.

The summer rains had fairly set in, and in consequence the roads were practically impassable for all traffic save the very lightest. To transport my outfit of tents, traps and stores overland, no matter where, would require from four to six carts, and with the usual prices for cart hire trebled, it will be understood that I was anxious to find some other means of getting about. Besides, by now I had had all I wanted of cart travel in such a country.

Fortunately there was a way of escape at hand, a route whereby all further road travel might be avoided, and which in the end would bring me to the railway, by which I might return to Tientsin. This was the river route, which the Major had used three weeks before, and which would serve me equally well if a boat could be secured. It had an additional advantage over the road in that it led through some good collecting country, while, once embarked upon its friendly surface, I would be able to take my own time about the journey. It presented but two drawbacks, which needed consideration. These were that its banks were said to be infested with bandits, and that there were at least three series of dangerous rapids between Ch'ao-yang Chên and Kirin that would have to be negotiated. I was willing to take my chance with the former, but I did not like risking my outfit, and the results of my work, obtained at so much trouble and expense, in the hungry clutches of the rapids. But finally I decided on the river route.

The next question was, whether to book passage on some large freight boat, such as passed up and down the river, to hire a smaller boat for my own exclusive use, or to purchase one outright. It did not take me long to decide on the last mentioned course: the attraction of ownership is a strong one.

Accordingly Dr. Young kindly drove me down to the river's edge in his buck-board, one of the few vehicles in the region capable of negotiating the roads, and we inspected the local shipping.

This consisted of some four or five boats, locally built, which were moored to the bank. They were all too large for my re-

quirements, except one, a newly-built, tight little craft, that was just the thing. The owner was away, but a meeting was arranged, and that night he turned up at the mission station. In half an hour the boat was mine, the boatman having accepted the, to me, reasonable sum of thirty nine dollars, Mexican coinage, and the position as crew and pilot combined. He said he knew the river.

Next day I went down and took over the boat, which in the first pride of possession I christened "The Mermaid." I decided to do the navigating myself, a decision that met with open derision from the other boatmen, and which my 'crew,' the erstwhile owner of the Mermaid, did not accept with any very marked enthusiasm.

Though possessing so high sounding a name, the Mermaid was really a very ordinary boat to look at. She was little more than a small flat-bottomed barge, fashioned on somewhat narrow lines. Her length was 25 ft. and she was not more than 6 ft. at the beam, while she had a minimum draft of about a foot, too much, as it happened, for the river we were on. She was fitted with a mast, a very amateurish sail, and, instead of a rudder, was steered by means of a long oar or sweep in the stern. There was nothing the least bit fancy about her, unless it were her shape, which was a shade too narrow for really safe navigation: she was not even painted or varnished. We rigged up a mat protection over the two middle compartments, which were partially decked in at the sides, leaving the small stern compartment for the helmsman, and the somewhat longer forward one for the bow hand, whose duty it would be to wield a punt-pole or a small bow-sweep as occasion should demand.

The Mermaid was a small, though typical, example of the kind of boat used by the Chinese on the upper reaches of the Sungari and her tributaries. She was light, easily handled, and suited to shooting rapids. The substitution of a stern-sweep for an ordinary rudder was necessary in order to swing her round when drifting without leeway down stream, or when negotiating a rapid.

In spite of her narrow beam, we managed to stow away the baggage so as to leave sleeping room for four people; the little bear, now in a specially built cage, was placed in the bows. Rastus, the pointer, had been given to one of the missionaries in Ch'ao-yang Chên, who had offered him a good home. Fresh provisions had been bought and carefully stowed away, and now we were ready to start.

Some of our missionary friends came down to see us off, and, after saying goodbye, we pushed off from the shore into what

In the Valley of the Ha-ma Ho.

Chinese Settler and his family: note the woman's Manchu headdress and large feet, West Kirin Forest.

should have been deep water. Alas for my dreams of an easy passage, of sitting idly in the stern of my "yacht," drifting down with the current, with only an occasional stroke of the stern sweep to keep her straight, or of scudding over the dancing wavelets under full sail, with the hull careening over and gunwale almost awash—alas for all such ideas! The river was scarcely deep enough to float us, and the whole of the first day was spent in pushing that wretched craft over sand banks and shallows, or in trying to find the deepest channel. The Mermaid, heavily laden as she was, lay like a log, deep in the bows, and hard to move. Worst of all, she sprung a leak, and baling operations were constantly necessary. So much for taking a Chinese on trust!

The well-execrated ex-owner worked like a nigger to show her up to the best advantage, but there was no escaping the fact that she was not suited to this shallow river, and it began to dawn upon me why he had been willing to part with her at so low a figure.

Fortunately the weather was warm, so that there was really no hardship attached to the necessity of jumping overboard to push the boat off the shoals into deep water. The real trouble was to find the channel, and it soon became evident that our pilot did not know the river as he had professed to do. In the end it came out that he and another man had gone into partnership over the Mermaid, had paid a carpenter to build her, and had then essayed a journey down the river. They had experienced the same difficulties as we were going through now, and had not dared attempt the rapids, neither of them having had any experience of such things before. They had laboriously towed the boat back to Ch'ao-yang Chên, and had been only too glad to sell her to me. He, our pilot, had consented to come with us, as he wanted to get to Kirin, and he did not see why he should let the ten dollars a month that I had offered him slip through his fingers. I felt that I had been properly duped, but determined that since he had served me thus, he should keep to his bargain now. I needed his help, inexperienced though he was, for my cook, though an excellent fellow and always willing, was suffering from dysentery, while the coolie was an absolutely useless rascal, lazy and stupid, with a rooted objection to water.

In spite of all I soon began to understand my boat, and, by rearranging her cargo, and carefully watching the river ahead for shallows, made fairly good progress.

A few miles down stream the Liu Ho was joined by an affluent of about equal size, so that there was a little more water, and finally, when the Ha-ma Ho poured its waters into those of the main stream, there was sufficient to form a fairly continuous deep channel. From this point on the river is known as the Hui-fa Ho.

By nightfall we reached a place called Hui-fa-ch'êng-tzu, which gives the river its name. Here an isolated spur of hard, basic rock rises abruptly from the water's edge, a hundred feet or so into the air, and it was under the shelter of this rock that we tied up for the night. At this point a ferry takes the traffic of the main road, even to the largest carts, across the river; while there was a good inn, owned and run by a Taoist priest, who lived in a temple on the summit of the rock.

It was a beautiful spot, and as I noticed the fish were rising I got out my rod and line, and while the cook prepared and served my supper, enjoyed half an hour's delightful fishing. Nothing very big was hooked, but at least my catch had the charm of novelty, for I landed no less than four different kinds of fish, to none of which could I affix a name at the time. Afterwards I found that they all belonged to the carp family, *Cyprinidæ*.

It was an evening of breathless calm, and, smoking in the bow of my boat, I could not help admiring the peaceful scene before me. From the deep shadow of the rock I looked across a perfectly calm stretch of water, on whose glass-like surface was reflected the dark outline of the willows on the opposite bank. The glow of parting day bathed everything in delicate pink and mauve. Up stream a boat could be seen drifting slowly towards us, while the low banks threw out their bars of shingle across and across, as though to prevent its progress. Beyond all were the soft evening mists and the faint blue outline of distant hills. A flight of teal came by on whistling wings, and after circling once or twice dived for the water, where little splashes of light in the black reflection of the willows marked the spots where they lit. Bats came out from the shadow of the rock and flitted about over the placid stream. I knew it was my duty to try and shoot one or two of these for my collection, but who could think of breaking the spell of such a scene, by loosing screaming, tearing death upon the innocent little creatures? I smoked on, and watched them instead. As daylight gradually faded a nightjar appeared suddenly, and on noiseless wings cut swift circles and evolutions as it chased invisible insects through the air. Then the long hoot of an owl sounded from the wood to my left, while from across the water was wafted the low, gentle

clucking of the teal at play. The air turned chilly, and a dampness rose from the river. Everything became enshrouded in a pearl-grey mist. The pale moon mounted to her appointed place in the heavens above, where, one by one the stars began to prick the blue vault with their tiny pin-points of light, and, with the perfect content that only Nature in her softer moods can bring, I turned in and was soon sleeping the dreamless slumber of the comfortably tired in my neat little cabin.

Next morning the mists still hung heavily over the river, which necessitated our waiting till the sun rose and dispelled them. When we did get under way we found that the river was deeper than heretofore, and we made good progress. We had taken on a passenger, who had offered to help work the boat as far as the next town, but his performances, during the short half hour that he spent on board, were such as to effectively discourage us from helping any more weary travellers on their ways. Acting as bow hand and look out, the first thing he did was to allow us to run on to a sand bank, at the same time getting his punt-pole jammed under the bows. It took ten minutes to get off again, and then another ten were spent in getting the boat up stream to recover the pole. Next he leaned his whole weight upon the mat roof of my cabin, causing it to collapse. He was then told to sit in the bows and keep quiet, but he spied and must needs examine my shot-gun, which I had placed loaded ready for use in case any bird should pass overhead which I wanted for my collection. Suddenly there was a deafening roar and a charge of shot whistled over my head. That was the last straw, and without more ado I seized him by the scruff of the neck and seat of the pants and pitched him overboard into the warm water and left him to wade ashore and continue his journey on foot.

Very soon a stiff breeze sprung up and we hoisted the sail and went scudding along at a fine rate. The Mermaid now showed to advantage, for she seemed to have been built for speed if for nothing else. The river, on the other hand, was far from suited to such manoeuvres, for we had gone but a mile or so when we drove right on to a hidden sand bar, everything in the boat, ourselves included, lurched forward with the impact. We all had to jump overboard to push the Mermaid off into deep water again, and as she was right on top of the bar, and a fairly stiff current was running, this was no light task. At last, however, we got her afloat once more, thereafter going more circumspectly.

Thus we carried on throughout the day, now making good time, now laboriously punting against the wind, as the course of the river wound snake-like down the wide valley. The river was too narrow to allow of tacking, besides which there were too many shoals, so that we could only sail with a fair wind.
travel by cart. We were wet up to our waists most of the time,

It was enjoyable enough, though; far better than the tedious through having to jump overboard so often. But, except when it rained, the temperature was so mild that no serious consequences were experienced.

Though, on the whole, the weather was fine we had some very heavy thunderstorms, which, regularly once or twice a day, would come sweeping up from the south-east. Then we would perforce drift down stream to the hiss of the rain upon the boiling waters, like that of an angry serpent. Anon the hiss would grow into a roar, and the roar rise to a scream, as the full blast of the storm would strike us, and force us to make fast to the bank; for while the rain churned the water surface it was impossible to make out the ripples and eddies that alone marked the situation of sunken rock or sand bar.

The chief danger of this river was the presence of sunken rocks, ever ready to break a hole in the bottom of one's boat. In some places there were long rapids, and then the greatest vigilnce had to be kept by the man in the bows; while the one at the stern sweep, by which the boat was steered, had to be quick to understand and act on the signals from the bows. As often as not, the roar of the rushing waters was so great that shouting directions was useless, and all instructions had to be given by waving the hand. Just before reaching He-shih-t'ou (Black Rock), a town about 40 miles from Ch'ao-yang Chên, we shot some exceptionally bad rapids, how I do not know. The roaring torrent rushed between two huge rocks and then divided upon a third. It seemed to me that our craft was carried like a cockle down towards the latter where destruction was inevitable. But I worked desperately at the stern sweep to turn the boat, while the boatman fended her bows off the rock with the pole. The water itself acting as a buffer kept the ribs from bumping, and next moment we were safely whirling round and round in an eddy. Looking back the way we had come, I marvelled that we had escaped intact. This performance so frightened the boatman that he forsook us that night, without collecting his pay and a few dollars still due on the boat. It must be remembered that I was the first European to sail and

navigate his own boat upon this river, and as yet the natives could not believe that I understood anything about it.

From He-shih-t'ou to Kuan-kai-er, the next large town, the cook and I managed the boat between us. The coolie made his ignorance an excuse for not helping, and, being a professing Christian of the "Rice" variety, which means that he followed that religion for purely material gain, was about as useless a rascal as it is possible to imagine. The whole journey he had been a continual source of annoyance to me, neglecting his work whenever he could, and answering back in a most insolent manner whenever he was reproved. But there was one thing he never forgot to do, and that was to sing hymns in an appalling voice every morning and evening, nor did his well worn Bible show signs of neglect.

We had a narrow escape that afternoon. With a strong wind behind us we were sailing along when a fish boom loomed up ahead. Usually the openings in these structures, through which a boat may pass, are marked with a red flag on either side, but in this case there were several gaps with but one red flag. Of course I chose the gap on the wrong side, and just as we were within twenty yards or so of it, I noticed that it was barred by a strong beam an inch or two below the surface of the water. I swung the nose of the boat round so as to take the next gap, but there being no lee-board, she continued her course sideways, struck the boom and began to keel over. The cook in his anxiety to let down the sail pulled the wrong part of the rope and so tied it more securely. Just as the water began to trickle over the gunwale, the boom gave way, and next moment we were speeding on down stream, while the owner of the boom cursed from the shore us and all our ancestors.

The last few miles into Kuan-kai-er we were heading right into the teeth of the wind, which was now blowing strongly, and as the banks were thickly overgrown with willows right up to and in the water, I was forced to get overboard into water up to my chest and tow the boat. The cook's and my combined efforts were not sufficient to punt the boat, which in any case was ill-fitted for the operation. The coolie sat amidships, taking his ease like any grandee.

At Kuan-kai-er I gave that gentleman his wages and his railway fare from Mukden to Tientsin and sent him packing. He had not done a stroke of work for two days, and I had had enough of him. I found out afterwards that he hunted up the nearest Christ-

ian family, and told them a tale of woe, whereby he won their sympathy and help to the tune of several dollars.

It was very obvious that we needed a good riverman to help in the handling of the boat, especially as there were some more rapids to be negotiated. Accordingly I engaged an old boatman, who agreed to go all the way to Kirin. The old fellow turned out very well, and, though ignorant in most ways, was thoroughly familiar with the river. Like everybody else he was sceptical of my qualifications as a sailor, but the first day's run reassured him, and thereafter he took great pains to explain to everybody we met that I was a most unique foreigner, for I could not only steer a boat but actually understood sailing.

Two days later we reached the mouth of the Hui-fa Ho and viewed for the first time the great Sungari River, as it rushed past on its way to join the still mightier Amur.

The last ten miles down the Hui-fa Ho our course lay between mighty walls of rock, the lower slopes being covered with a heavy growth of small trees from which poured forth a ceaseless strain of wild bird music In the river mud-turtles and cormorants might be seen sunning themselves on the projecting rocks. High over head ospreys circled, ever on the watch for unsuspecting fish coming to the surface to feed. It was a fine sight to see one of these great birds drop headlong from the azure sky, striking the water with terrific impetus, scattering the spray far and wide, and then rise once more with some large fish, whose furious flapping would well nigh paralyze its captor. Herons also were plentiful along the banks, while mother ducks with their babies trailing out behind them, swam among the half submerged willows or reeds busily looking for food.

We passed a great many Corean fishermen, from whom we bought fine large fish at ridiculously low prices.

The Coreans are undoubtedly the best fishermen in this district. They catch trout, grayling, rainbow carp (*Zacco*) and bass with the 'fly,' true carp with specially prepared bait, catfish and wels (*Parasilurus asotus*) with worms or meat and so on. They use night lines to a considerable extent, their whereabouts being marked by anchored gourds. In the mornings we used to see them paddling about the river taking in their night's catch. Frequently mud-turtles would be seen hooked to the lines set for catfish and wels. Throughout the summer these Coreans seem to make their living entirely by fishing, when they live in small, roughly made

cabins on the banks In winter they spend their time hunting, so I was told.

The method of fishing adopted by the Chinese on this river, is to make a barrier or boom of willow staves and beams right across the stream, leaving a gap in the middle for boat traffic, and another close to either bank, where large dip-nets are placed. These they work at night, using a flare to attract the fish, and so make good catches.

The geology of the country merits a word in passing. As we drifted down between high cliffs, three distinct formations could be made out, one lying upon the other. The lowest of these was of granite and other plutonic or metamorphic rock. The middle was of a very dense basic rock with irregular cleavage, while the upper layer was of basalt with characteristic columnar cleavage. The two upper layers were each fifty feet or more in thickness, and, though they lay horizontally one above the other, were, as far as I could make out, unconformable, while the three layers represented three distinct geological epochs. Subsequently I found the same formation extending northward along the Sungari to within twenty miles of Kirin, and met with it again in the Yalu River basin. In places we came across old gold washings along the banks where gravel occurred.

When we reached the mouth of the Hui-fa Ho, it was to find the Sungari was in flood. This would not have mattered had I wished to go down stream, but, as a matter of fact, I had conceived the idea of working up that river in an endeavour to get nearer to the Ever White Mountain than was otherwise possible. I had heard many accounts from natives who had visited the district of tigers, spotted deer and other things of interest. Under the most favourable conditions, they told me, a boat might travel up stream at the rate of ten or twelve miles a day, and so could get as far as the Er-tao-kiang (Second River). This river it will be seen from the map is the second large tributary of the Sungari, and has its source in the Ever White Mountain. From its mouth to the famous mountain itself there was said to be a trail of some sort, up which, if I could get so far, I had hoped to go.

In its present condition, however, it was obvious that it would be very difficult to ascend the Sungari at all, of which fact we soon had ample proof. At the point where the Hui-fa Ho joined it, this mighty volume of water was undercutting its left bank, which meant that we would have to bring the Mermaid right into the swiftest part of the river and tow her up against the current

To increase the difficulty of doing this the undercutting of the bank, which was here about thirty feet high, had caused many land slips, and large trees lay half submerged or slanted out over the water forming very serious obstacles to progress with the tow rope. Nevertheless I decided to make the attempt to get round that bend and up the river. It was too late to do anything that evening, and so we decided to stay where we were for the night.

Next day we were up early. An examination showed that it needed two people in the boat to keep her nose pointing up stream, so I left the cook to help the old boatman, while I went ashore with the rope. By dint of much scrambling and climbing, sometimes on the very face of the cliff, whose loose soil threatened to give way under my weight, I succeeded in getting round the bend without fouling the rope; but when the Mermaid swung into the swift current I was nearly torn from my moorings. I had taken the precaution to put both arms round a stout young elm in order to meet the strain. The tow rope bit cruelly into my chest and shoulder, but to leave go meant destruction to the Mermaid and probable death to her crew, myself included. So I hung on. At last the boatman managed to get the nose of the boat nearer shore and pointing squarely up stream, which had the effect of lessening the strain, and I was able to gain a few paces. The struggle continued for over an hour. I would gain a few feet and then grip hold of some tree or shrub and hang on for dear life till the strain eased up. The worst parts were when I had to get round one of the fallen trees, to avoid which the boat would have to be taken out further into the current. But at last the worst part was over, and, the boat being safe, the boatman came ashore to relieve me at the tow rope. My chest and shoulders were in a bad state, the former feeling as if it had been crushed in, the latter all chafed and raw. It was weeks before I lost all traces of the pain in my chest.

For the rest of the day the boatman and I took turns to tow while the cook steered. The latter was too ill with dysentery now to do any hard work, but he was always willing to do what he could.

By sunset that day we found we had only made about six miles, at which rate it would have taken a month or more to reach the Er-tao-kiang. The work had been very tiring and I, for one, was thoroughly worn out. We tied up to the bank and went over to a group of buildings surrounded by a high wooden palisade.

Here I tried to engage a couple of extra hands to help tow the boat up river, but there was no labour on the market, all the natives being busily engaged on the land.

There was nothing for it but to go on our way without help, or to give up the project of ascending the river and look for collecting grounds near at hand. The question resolved itself into one of time. It was now getting on for two months since I had left Tientsin, and so far I had done very poorly in the way of collecting specimens of mammals. Much as I wanted to push on, it was obvious that to do so would interfere still further with my primary object, which was zoological rather than geographical, and finally I decided to abandon the idea of going further. As it happened excellent looking collecting country lay close at hand, for on either side of the river there were high cliffs and heavy forests. Exactly opposite to us lay a large side valley up which we could see ridge after ridge of forest clad hills, while the valley bottom, though partially cultivated looked extremely promising. I decided, therefore, to cross the river, choose a good camp-site, and devote my time to collecting work.

The crossing of the river at this point was attended with no little risk, for we had to work the boat over by means of the small bow sweeps, while the current carried us down at about six miles an hour. If we failed to cross the current within a certain space we would be unable to make fast, owing to a sheer wall of rock which came right down to the water's edge, and then nothing could save us from being dashed to pieces on a row of formidable rocks that lay further down stream. The great trouble in handling the Mermaid in the clutch of a fast stream was the inefficiency of her motive power, which always added greatly to our danger when in a tight place.

The cook and I worked the bow sweeps for all we were worth, while the boatman, strangely excited for once, shouted and yelled instructions from the stern. As it was, the nose of the Mermaid grounded on the shingles not three feet from the wall of rock. Another yard, and our fate would have been sealed. All is well that ends well, however, and we were just as safe now as if we had landed a hundred yards further up stream, so, after congratulating ourselves, we made fast, and went ashore to look for a good camp site. This was soon found, but as the day was far spent, we decided not to pitch the tents till next morning.

On the morrow we were early astir once more, and by ten o'clock had cleared a level piece of ground and set up the tents. The Mermaid was made doubly secure lest in the night she should drift away. Out came my beloved traps, which I carefully overhauled and oiled, and by the afternoon everything was ship shape and ready for a stay of some duration.

The type of craft used by the Chinese on the Sungari River, and the Hui-fa Ho.

Chinese crossing the Sungari River in a small, shallow dugout: a very risky performance.

CHAPTER VIII.

A Naturalists' Paradise.

And all the jungle laughed with nesting-songs,
And all the thickets rustled with small life
Of lizard, bee, beetle, and creeping things
Pleased at the spring-time. In the mango-sprays
The sun-birds flashed; alone at his green forge
Toiled the loud coppersmith; bee-eaters hawked,
Chasing the purple butterflies; beneath,
Striped squirrels raced, the mynas perked and pocked,
The seven brown sisters chattered in the thorn,
The pied fish-tiger hung above the pool,
The egrets stalked among the buffaloes,
The kites sailed circles in the golden air.

. . . . . .

—*Arnold.*

CHAPTER VIII.

A Naturalists' Paradise.

The country where I had chosen to make my collection turned out to be the seventh heaven of this naturalists' paradise. The time I spent there, seems in retrospect like a dream, wherein one wandered through a fairy-land of delightful fern-filled dells and dingles, down valleys ablaze with flowers of every shape, size and colour, deep into quiet woods, where the little spotted fawns trod lightly on the soft green moss, along murmuring brooks, plashing on their way to the river, and over meadowy uplands flanked with rugged scarp and frowning cliff. Nature presented herself in all her variant moods. Sometimes heavy thunderclouds darkened her face; sometimes it was wreathed in sunny smiles. There were gorgeous sunsets and misty moonlight scenes. There was the chance of scrambles over rocky crags or long swims in swirling waters, when one could make no headway against the current By day a myriad insect forms filled the air. Gossamer-winged dragonflies floated on high, or armour-clad beetles, flashing iridescent hues, droned through the underbrush. By night a thousand fairy lanterns, carried by tiny fireflies, glowed and waned alternately, as they danced through the gloom, pale greenish points of light, lighting the way of their owners to their loves.

One lived in an ecstasy of never ending delight: one slept as it might almost be, the poppy-induced sleep of the Orient. Night and day were filled with the mystery of living, moving things. It was a land where nature ran riot in her prodigality, and the only thing that detracted from its charm was the absence of anyone with whom to share it.

True, the old boatman thoroughly enjoyed the lazy hours, basking in the sun or tittivating with the scrupulous care of a lover his new-found charge, the Mermaid, which lay tugging and straining at her moorings on the river brink. True, too, the cook became more of a camp companion than is usual with native servants, and often, under the mellowing influence of 'the drug,' secretly inhaled with tobacco smoke in home-made cigarettes, would sit by the camp fire and tell strange tales of adventure amongst the Tartar tribes and fur-traders in Siberia, at the mouth of the Amur

and in Kamschatka; how the salmon running up stream to spawn were so thick that they might be dragged out of the water with only a gaff, only the largest, which could not escape by reason of the crush, being taken; how the natives harpooned seals from small canoes, so made that the occupant could turn turtle with them without getting them swamped; how the Tartar mothers tied their babies in a sort of straight-jacket, which they slung over their backs when travelling, or hung in trees when occupied in other ways. True, again, the natives living in flourishing farmsteads near by, appreciated to the full the rich soil, and genial climate, and when visiting me were never tired of singing the praises of this the land of their adoption, while the little children, often mother naked in the sun, brought their contributions of woodland beasties, and stayed to receive a dole of sugar or spoonful of jam, or to play with little Adam, the bear cub, who was allowed all the freedom of a long rope—all this was true enough, and one way and another, I was not wanting in company. But there was no one of my own race, of my own way of thinking, with whom to commune. The very friendliness of the natives, delightful as it was in its way, only made the longing for my own kind the more poignant.

My camp was pitched at an elevation of about twenty feet above the river upon an old alluvial deposit laid there during some bygone period of flood. Behind it was a great scarp of rugged, basic rock, at the bottom of which stood a dense wood, that I found a very fruitful place in which to set my traps.

To the east a long knife-edge ridge ran parallel with the river course for half a mile, ending abruptly at the brink of a large side stream in a peculiar, isolated column of rock that towered a hundred feet into the air. It was this that gave the district its name of Yen-t'ung La-tzu, which means, literally, Smoke-stack Crag, or Chimney Crag.

Back and beyond the ridge, and with but a narrow outlet into the river, spread the smiling valley that had attracted me from the other side. Here wooded or grass-covered slopes, the former predominating, ascended gently to beetling crags of columnar basalt, above which spread rolling uplands of meadow and cultivated fields, interspersed with extensive areas of forest.

Further up this valley grew narrower, the frowning cliffs drew closer together, and the forest was more and more continuous. From the highest points on the uplands the whole horizon, but more especially to the south, showed dim outlines of distant, purple mountains.

It must not be imagined that all this was seen at once, but bit by bit as I pushed further afield with my traps. All my traps were soon out in a long line, to traverse which was a good two hour's walk, and which, from time to time, was moved as occasion required.

Immediate success rewarded my efforts, and my days were soon reduced to a routine of visiting traps in the mornings and evenings, skinning and preserving the specimens captured during the day, with meals when required. The wood behind my tent yielded particularly well. I found several burrows beneath the grass and underbrush, and, setting my smallest traps at the mouths of these, drew a daily supply of small rodents. Here I caught many fine specimens of the new woodmouse *Apodemus praetor*, Miller. The commonest mouse in the district was the Manchurian field-mouse (*A. agrarius mantchuricus*, Thos.), which, contrary to what might have been expected from its name, occurred as much in the woods as in the fields. Then, too, I caught several fine specimens of the wood-vole (*Craseomys regulus*, Thos.), and also some chipmunks.

I laid out a line of traps under the overhanging banks of the river, and secured specimens of the Manchurian representative of the Norwegian rat, (*Epimys norvegicus caraco*, Pall.), great fellows that lived upon the refuse deposited along the shores. Here also I trapped several specimens of the common house mouse of the country, named by Thomas *Mus wagneri manchu*.

At the point where the side stream joined the river was some low-lying land, overgrown with a tall, rank sort of goose-foot. Here I noticed numerous little foot-prints in the soft mud, and also many carefully stacked piles of the long lanceolate leaves of the weed, so I set traps and caught some fine specimens of the large, dark vole, *Microtus pelliceus*, Thos., which is closely related to the large Yang-tzu reed vole (*M. calamorum*).

Along the edges of the fields on the top of the bank, I trapped some great grey hamster rats (*Cricetulus nestor*, Thos.), creatures that look like the common rat, but are greyer, with shorter tails and have huge cheek-pouches. On the lower slopes of the Chimney Crag ridge, mice and voles were common, and it was in one of the small dingles that ribbed its sides, that I caught my first shrews. These were a large form of musk-shrew, almost black in colour, which turned out to belong to Dobson's *Crocidura lasiura*. This was a great find, and one which pleased me more than any other. These animals were all trapped at the bases of certain

giant umbelliferous plants of the *Angelica* type, where they seemed to burrow at the roots to get insect grubs.

Up the side-valley I secured a good specimen of one of the Manchurian hedgehogs, which seems to represent Schrenck's *Erinaceus europaeus amurensis*. It was taken in a trap set in a little runway through the grass and baited with a dried prune. The other species already mentioned were also abundant here.

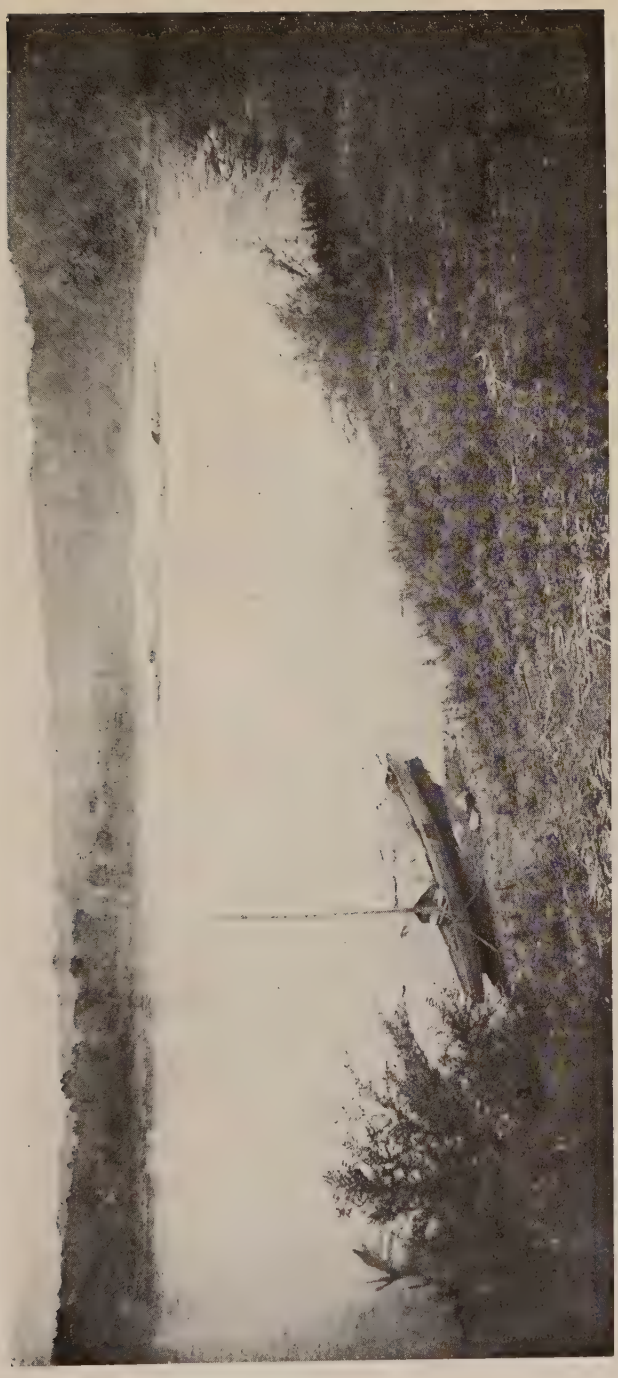
From the natives I bought a badger (*Meles taxus amurensis*, Schrenck), a weasel (*Mustela nivalis pygmaeus*, Allan), the small brown spider shrew (*Sorex annexus* Thos.), and a skull of the Manchurian mink (*Mustela sibirica davidiana* M.-Edw.).

Detailed descriptions of all these will be found in a later chapter on mammals, nothing in their general appearance distinguishing them from their British congeners sufficiently to call for remark here.

In the woods were foxes and bears, as was shown by their tracks, but here again I was baffled in my efforts to secure a shot at the latter by the dense foliage, while traps set for the former proved a failure. The natives also reported others in the rivers and streams, which I could well believe. Moles, too, were plentiful, but I could not catch any.

Roedeer appeared numerous, as I frequently saw their tracks, or heard their characteristic challenge, like a dog's bark, in passing up the side ravines, or through the woods. The natives said there were *Chang-tzu* in the woods, but I could never be sure what they meant. *Chang-tzu* in Shantung and along the Yang-tzu valley means the little river-deer (*Hydropotes inermis* Sw.), a related species of which, *H. coreanus*, David, has been described from one of the islands of Corea. The muskdeer (*Moschus sibiricus*' Pallas) is known to occur in the Kirin forest, and as it is in many ways not unlike the river-deer, being hornless and armed instead with long tusks, while its name *Hsiang-tzu* has much the same sound as *Chang-tzu*, it is possible that the natives were referring to this animal. A third alternative is that they may have confused the hornless roe-doe with the river deer of their own native province, Shantung. In support of this I may add that I saw no signs of anything but roedeer.

Of the larger deer, wapiti and sika, I heard or saw nothing at all, though they, together with wild pigs and other rarer animals, including the tiger, doubtless occurred at no very great distance inland from the river, especially as all cultivation was said to cease twenty or thirty miles eastward in this direction.



The Sungari River above Kirin City, with log-rafts floating down.

Birds were abundant, though only those which breed in the country were now left. Of these I specially noticed the red-tailed shrike (*Lanius cristatus lucionensis* L.), whose nests were seen in small shrubs and tall bushes, the young almost fully fledged, the great eastern reed warbler (*Acrocephalus arundinaceus orientalis* T. & S.), several other warblers of whose identity I could not be sure, the osprey, cormorant, eagle owl, nightjar, kingfisher, and mandarin teal. A fine specimen of the osprey was brought down one day as it sailed overhead. Though I did not keep it, a beautiful kingfisher was brought to me alive by a Chinese who had caught it at the mouth of its burrow by means of a noose of horse hair. I bought the little bird and gave it its freedom, for I felt sure that a family of young were dependent upon it.

My interest was especially directed to the habits of the little mandarin teal (*Aex galericulata*, Linn.), the drake of which species, when in its full mating plumage, is without doubt the most beautiful member of the great duck family. Not even may we except the wood-duck (*A. sponsa*) its relation of the North American continent, for not only has it all the colours of the latter, but it is further adorned with a large golden-brown or reddish hood in addition to the crest, as well as two large red-brown plumes growing from the wings, and standing up on the back. The females and males of both these species when in their dull summer plumage are almost indistinguishable, and, from what I can gather by reading of the wood duck and what I observed of the mandarin teal, the habits of the two species are very similar.

Manchuria is *par excellence* the breeding haunt of the mandarin teal, where in the streams that wind through the dense forests it finds a suitable nursery for its young. The nest is made in the hollow of some tree close to the water, often at a considerable height from the ground. Here the eggs are laid, and the young hatched out. How the young are conveyed to the water I cannot say from personal observation, but am inclined to think that they are carried on the parents' backs, as in some cases where the nest is high and does not overhang water the young would suffer injury if they jumped. But I was on the scene too late, for the young, some of which were very small, were all in the water.

One day I came suddenly out of the brush to the edge of a stream, and immediately my attention was drawn to a mandarin teal flapping noisily up stream, squaking as though in pain. Out of the tail of my eye I caught sight of a string of ducklings hastening down stream, and I guessed at once what the game was. The

mother teal kept in sight for a time, flapping her wings on the water, then suddenly rose into the air. She did not fly off to join her brood, however, but kept circling round me at a very short distance above my head making a sort of whistling noise. Presently she alighted on a branch of a tree, exactly like any perching bird, where she sat watching me. At last, after having kept my attention, as she seemed to think, long enough to allow her young to get well away from danger, she flew off to join the precious brood.

One evening I was the innocent cause of the death of a brood of young pheasants. I flushed them in thick cover on the bank of the river, and the poor little creatures flew out across the waters. Next morning I found five little bodies on the rivers edge at a bend further down, where the current had evidently brought them ashore.

Of reptiles I found a few interesting species. Owing to the delightful climate I had taken to wandering about with only tennis shoes on, or even bare-footed, as the natives did. Noticing, however, that the latter never went into the grass or scrub unless properly shod, I asked them the reason. They replied that they feared snakes! Up to this time I had not supposed that poisonous snakes occurred in the country, and, even then, I attributed the caution displayed by the natives to their natural dread of serpents of any kind, rather than to the actual presence of any poisonous species. All Chinese have a perfect horror of snakes, and are firm believers that all snakes are poisonous. They even dread the harmless little wall lizard or gecko (*Gecko japonica*), so it is not to be wondered at that I paid little heed to the friendly warnings I received, but continued to go barefooted. One warm, sunny day, however, I noticed a large snake scuttle into the brush from the path I was on. It looked unusually thick for the ordinary black snake that was so common in the district, so I decided to capture the next one if I should happen across another. Within a hundred yards I did come upon another large fellow lying in the sun, and, approaching carefully, put the butt of my gun upon its neck. Next moment a pair of wide gaping jaws displayed two long fangs, and I realized that I had captured a viper; and a cold shiver went down my back at the thought of the number of times I had all but stepped upon snakes as I tramped the round of my traps. Well, we live and learn—and, conversely, if we do not learn we die! I did not forget that lesson, though later I had to learn another from another viper, that shammed dead, and so nearly got me. I slipped

a wire noose over the wicked head of my prisoner and conveyed it back to camp; where a bottle of alcohol became its resting place for the time being. This snake and several others captured later were subsequently identified as a species of pit viper, *Agkistrodon blomhoffi brevicaudus*, Stj.

Other reptiles noticed were the Manchurian black grass snake, or king snake (*Elaphe schrenchii*, Strauch), already refered to elsewhere, the common coluber (*E. dione*, Pallas) and a small, long-tailed lizard (*Takydromus amurensis* Peters). Besides these frogs and toads of various species were seen.

I have already hinted at the wonderful insect life which abounded in this district, and I think that, without going into too much detail here, it might be as well to try and give the reader some idea of it.

All the butterflies that were so plentiful in the lake district near Ch'ao-yang Chên were here also, though perhaps in smaller numbers. Dragonflies were distinctly more numerous, though there was nothing new amongst them meriting comment; but when we come to the beetles a very different case is presented. Their enormous numbers and variety were bewildering. The same might almost be said of the flies. The beetles I saw ranged in size from the great carnivorous beetles, *Carabus vietinghovi*, and the giant scarab, resembling the sacred scarab of Egypt, down to the most minute pin-heads of chrysomelids and weevils. In a certain little dell, where the stones and rocks were thickly covered with moss, and where there were deep cracks and crannies, I found my large traps repeatedly sprung and the bait gone. I placed some smaller ones, but the same thing happened. At last I quietly visited the place by night, and to my surprise found four large carnivorous beetles, two belonging to the above species and two to *C. schrenckii* Mén., busily eating the bait in my traps. The latter species is of a brilliant green, which changes to blue or gold when turned in the sunlight, while the former, *C. vietinghovi*, is duller green with a bronzy-red sheen on the thorax and elytra.

Whenever I threw away the flayed carcases of my specimens, those that escaped the magpies were rapidly buried by beetles. Some of these were rove-beetles, others were burying beetles, *Necrophorus*. and their allies the *Silpha*. There was one very large kind, *N. concolor* Kraatz, several specimens of which were secured.

Lady-birds, *Coccinellidæ*, of several species were very numerous. Then, too, there were a great many species of longicorns, *Cerambycidæ*, many members of which family commit great havoc

in woods and forests by boring into the trees in their larval stage. They may be recognized easily by their usually enormously elongated antennæ, their long wedge-shaped wing-cases, and their usually formidable jaws. One species, *Melanauster glabripennis* Mots., which is also very common in China, being usually found on the trunks of willows, is of a shiny black with conspicuous white spots. It has antennæ almost double the length of its body. Another smaller species is of a shiny olive green inclined to iridescence.

Many and varied were the weevils, some of which had most extraordinary shapes. There was one with a long stalk-like neck, while another was of a pale iridescent green. The most beautiful of the beetles were, perhaps, the Chrysomelids and chafers, nearly all of which displayed the most wonderful metallic hues. A very conspicuous species was one of an emerald green reflecting orange, gold, bronzy-red or prussian blue.

Cantharides beetles and some members of the order *Rhynchota*, which are not really beetles though they sometimes look like them, but are what are generally known as bugs, were also plentiful, many of the latter also displaying vivid shining greens and gold in their colour scheme.

Then there were clicking-beetles, the peculiar little insects, which, when placed on their backs, will shoot themselves into the air with a spasmodic jerk of the thorax, causing it to click against the elytra.

I also caught a specimen of the peculiar tortoise-beetle, (*Coptocycla*), another of the chrysomelids, which gets its name from the fact that the wing cases and thorax protrude beyond the body in such a way as to resemble the shell of a tortoise. My specimen was of a golden colour, with transparent edges.

There were oil-beetles (*Meloë*) and water-beetles (*Hydrophlus*) and numerous other genera and species, all surpassingly interesting, particularly the little firefly (*Lucicola*), which belongs to the same family as the British glow-worm, the *Lampyridoe*. It is a small beetle with black or dark brown wing cases and red thorax. The light is carried in the last three segments of the abdomen. When the beetle is active the peculiar green phosphorescent light flashes up and dies down at intervals of ten seconds or so. Thus, flying in the dark, they are extremely difficult to capture, for they move rather fast, and during the intervals of non-luminosity escape the pursuer. The light is sufficiently strong to illuminate the dial of a watch at a distance of a few inches.

Of flies, which as already stated were almost as numerous and varied as the beetles, perhaps the most interesting to be met with were the horse-flies and gad-flies. There was one very large species of *Tabanus*, larger even than the great European horsefly, *T. bovinus*, which it resembles. When on the wing it looked not unlike a hornet, buzzing just as loudly. If by any chance one of our party was caught napping by one of these formidable insects, the fact was soon communicated to the rest of us, for a loud shriek usually followed the frightful, stinging jab that the unwary victim received. This insect forms a very serious pest to cattle owners, for it attacks the animals in such numbers and so mercilessly that they often die from the effects. Where one of these flies has bitten the blood will flow quite freely, while the poison injected causes the acutest pain. Besides this terror of the woods there were half a dozen lesser parasitic forms such as gad-flies and warble-flies to contend with. The latter (*Hypoderma*) is a most noxious insect. It deposits its eggs on the hair of deer and other ungulates. These eggs get to the throat of the animal where they hatch out, the larvæ working its way to the under surface of the skin, where it lives with an opening to the air, causing great discomfort to the victim and inflamation of the tissues round the opening.

Various kinds of hover-fly (*Syrphidæ*), robber-flies (*Asilidæ*), enemies of the gad-flies, besides a great number of species belonging to the house-fly family (*Muscidæ*) were also noticed; some large hairy fellows, others of quaint shape. Needless to say the common house-fly itself was not wanting. Swarms of these tiresome pests invaded our camp and the only way to keep their numbers down was to wait till night, and then, when they had all gone to roost in the top angle of the ceiling of the tent, to catch them in the improvised butterfly net, and kill them with boiling water. It is no exaggeration to say that there was frequently a mass of dead flies in the net that would fill a half pint measure.

To my surprise I was not worried by mosquitoes in this delightful spot. I put this down to the fact that the camp was on high ground beside the river, which flowed too swiftly to harbour the larvæ. The nearest still water was fully half a mile away on the other side of the Chimney Crag. The hilly nature of the country tended to do away with swamps, which, doubtless, considerably helped matters. Nevertheless in the woods along the side valley there were plenty of these pests.

A great many different kinds of spiders were noticed, long stick-like forms, short crab-like ones, great ground-inhabiting species, such as wolf-spiders, that literally run down prey like their mammalian name-sake.

It must not be thought that I went in search of these multiform members of the insect world. On the contrary, they were thrust upon my notice as I went about looking for places to set my traps. They swarmed round my tent, in it and on it. The herbage was alive with their hordes. Sometimes a single bush would have a dozen different species of beetle, and as many kinds of spiders and flies upon it. Sometimes a branch would be practically hidden by a mass of one particular species, but usually certain plants seemed to attract certain forms. Thus the pale green weevils always occurred on umbelliferous plants, lady-birds on roses, a certain little spotted beetle upon willows, and the large chafers upon the privet and similar plants.

The floral wonders of this Garden of Eden have already been hinted at, but they merit fuller attention. I was afforded a good chance of continuing my study of the Manchurian flowering plants, many of which, blooming in the summer, were not noticed in the Yu-shu-ch'a district.

In many respects the flora of this district might be considered sylvan, but as there were numerous meadows and open valleys not under cultivation, some of which did not look as if they had ever been forested, one might have expected to find that the greater part of the plant life they supported belonged to the open. This, in fact, was the case. In the damp valley bottoms close to the streams a magnificent ranunculous plant grew thickly, reaching a height of four feet, and bearing large orange blossoms, something like those of the kingcup, but with greatly developed stamens. It was a plant that would be an ornament in any garden. Beside it grew a large, purple iris, altogether a more showy blossom than the spring flowering species noticed in the Ha-ma Ho valley and round Ch'ao-yang Chên. On the slightly higher ground the gorgeous red tiger-lily (*Liluim tigrinum*?) displayed a head of blooms that would delight the heart of any gardener or florist. I never saw such flowers before. The size of the Bermuda lily, they were of a rich vermilion, often five or more such blossoms occurring upon a single stalk, while the stalks themselves often grew in clumps of three or four, sometimes more.

Wintergreen, or a species of spiræa like *Spiræa palmata*, whose leaves, stems and roots were redolent with the smell of winter-

green, and valerian (*Valeriana officinalis*) reared heavy sprays of pink and white flowers, while monks-hood (*Aconitum lycoctonum*) and larkspur showed their blue heads above the tall grass. A fine blue clematis grew in tangled masses along the edges of the cultivated fields or on the overhanging banks of the river, while the little speedwells and forget-me-nots grew in the underbrush or down at the water's edge. Where the grass was not too long and thick, various species of gentian pricked the green carpet with their pretty blue and pink stars.

All over the hillsides the magnificent campanula *Platycodon grandiflorum* bloomed, in beauty rivalled only by a heavily-blossomed white clematis.

Another member of the campanula family that was very plentiful was a large, cream coloured Canterbury-bell. This grew more on the wooded hills, while a smaller blue flower-like a hairbell grew in the open. A fine orange-coloured flower, shaped something like a thistle was very plentiful on the hillsides, an enormous thistle itself, with large head and wicked spines occurring in the thickets.

The *Umbelliferæ* were well represented. Most interesting of these was a large plant of the angelica type, the base of whose leaf-stalks were swollen into great tubers. The leaves also were very large, and a large head of flowers surmounted the thick stalk. Another species, even larger than this with a hollow stalk of two to three inches diameter, reached a height of seven or eight feet.

Amongst the most interesting of the flowering plants noticed were the orchises, of which I found four or five species. One of these resembled the British tway-blade, but was larger, had a fine scent, like that of the carnation, and was possessed of three or four leaves instead of the characteristic two of the green-bloomed tway-blade. For the sake of their sweet odour, I gathered a bunch of these flowers and placed them in my tent; but the following morning all their sweetness had turned to foulness, and the tent was filled with the stench of putrescence. Then there were two species of pink orchis, resembling our marsh orchis and spotted orchis, and two white forms, like the butterfly orchis of the English meadows, only finer.

In addition to all these plants with conspicuous blooms, there were a host of less noticeable species, such as broomrape, shepherds-purse, plantains, stonecrops, cresses, bedstraws, and also what are known as inconspicuous flowering plants such as nettles. Then, too, there were all the ferns and other members of the lower orders, such

as *Selaginella* and *Marchantia*, or liverwort. I found some fine samples of the latter with their peculiar umbrella like reproductive parts fully developed, growing under the bank beside the river.

With such a wealth of animal and vegetable life on all sides, it is not to be wondered at that I found my time fully occupied. The natives were very good in bringing in specimens of small mammals. There was a cat living in an adjacent farmstead, who had a family of kittens. She proved an invaluable ally, as she nightly caught several voles or mice, which the little children brought to me. I saved the bodies, after they had been skinned, for the kittens.

The people here were very industrious, and had splendid crops of cereals to show for their pains. Tobacco also was grown extensively. They lived almost exclusively on millet and maize, with only onions, salted cabbage and soy-sauce for relish. A coarse, rather strongly flavoured cabbage or kale could be had.

Every day huge log rafts could be seen floating past us down the river, which the natives said came from the Er-tao-kiang of the Ever White Mountain district.

Sometimes large pieces of pumice stone could be picked up along the banks of the river, evidently having come down stream from the same region.

I used to swim in the river, whose current was too strong for me to do more than hold my own against it. One day the little bear got loose and went straight for the water. He plunged in and was soon being carried away. Not wishing to lose him I was forced to dive in after him. In a few strokes I overtook him, grabbed him by a hind leg, and struck out for shore, landing uncomfortably far down.

The weather was not all that could be desired, since for the first ten days it rained continually. On this account the river began to rise. Soon the current was so fierce that all boat traffic up or down ceased. The numerous log rafts that had passed continually up to now, were replaced by single logs which had been torn from their moorings or washed out from the side streams and back-waters. These increased in number till the whole water was dotted with them.

At last the waters reached a level within a few feet of my camp, having risen from twelve to fifteen feet. It was a grand sight, and the roar that the rushing torrent, almost a mile wide in places, made as it dashed against the out-jutting rocks of the precipitous cliffs was deafening.

The Author in Camp on the banks of the Sungari River, Kirin.
Note the bean cultivation.

Nightly the sun set in a blaze of gold and red behind the distant sombre hills. Later the moon would struggle to penetrate the heavy rain-clouds, but it was seldom that we saw her watery face.

Then the fireflies would appear in their hundreds, till the dark woods behind my tent seemed alive with a myriad fiery eyes.

And so I trapped and hunted and explored, till I began to notice that no new specimens came my way, and I was just thinking of packing my things to go down stream, when I had an adventure that bade fair to end my hunting and travel for ever.

CHAPTER IX.

A Thief in the Night.

CHAPTER IX.

A Thief in the Night.

It was a moonless night, and only a faint glimmer came down from the few twinkling stars that managed to pierce the overhead clouds, as I sat at the door of my tent smoking my evening pipe. The darkness which marked the woods behind me and to one side, was made more intense by the pin-points of light from the numerous fire-flies. I could make out the surface of the Sungari twenty feet below me, while the roar of its waters boiling over some rocks a mile away was wafted softly to my ears on the evening air. A great eagle-owl went booming overhead across the river in search of his prey, while the nightjars flitting under the shelter of the rugged scarp, that frowned over the woods, could be heard making their peculiar 'knocking' noise, like rock hammered upon rock. It was the time when the birds and beasts of prey went forth to do their dark deeds of blood. I could not help feeling that there might be other marauders than mere beasts abroad on such a night. Indeed, I had been told that very day that a band of the dreaded *hunghutzu* were lying in wait some where down stream, and had already held up and robbed a number of boats. One passing traveller even said that he had heard that they were specially on the look out for me, having gleaned information of my whereabouts at Kuan-kai-er.

Feeling unusually lonely and somewhat depressed I turned in earlier than was my wont, and as I had been on a long hunt during the day soon fell asleep.

What woke me I shall never know. Perhaps it was some slight noise; perhaps that sixth sense which animals and all those who spend much of their time in the wilds seem to possess, a sense which warns them of the presence of danger. Whatever it was, I awoke with a strong feeling of impending evil, and the first thing that met my gaze, outlined against the faint light that came through the door of the tent, was the rigid figure of a man, standing at the foot of my camp cot.

In a second I was wide awake, my heart thumping a tattoo upon my ribs. The gossip that I had heard that very day

flashed through my mind. *Hunghutzu* was the thought that hammered on my brain. I lay perfectly still except that my hand stole quietly to the place under my pillow where I kept my revolver, a heavy bore Webley. The figure did not move; apparently the man, whoever he was, had detected the sound of movement from my bed, for the attitude was that of intense concentration. So we remained for a few moments. I could hear my watch ticking in the dark beside me.

As my fingers closed on the butt of the revolver, and I found the trigger, a sense of security seemed to come over me. Suddenly I drew the weapon and covered my man. Still he did not move.

I was now perplexed what to do. Knowing the temper of the Chinese, and the endless trouble involved if one kills one of them, even under such circumstances as these, I did not want to shoot him. On the other hand there was no means of knowing if the fellow had any companions ready to strike me down. There might even be another person in the tent. Also I was lying down and in a poor position to defend myself in the event of a sudden rush. These thoughts raced through my mind, till suddenly I decided to act.

That my visitor could not see me was obvious; he was listening, probably waiting for me to fall asleep again, before continuing with his nefarious purpose whatever that was.

"If you move I shall shoot you!" My words spoken in as clear and firm a voice as I could manage, made the man start violently. Next instant he had dived for the door, while I jumped out of bed and followed. He had not gone three steps from the tent when I had him covered again, and again told him to stand still or I would shoot I felt better now that I was in the open but still far from easy. The thought of accomplices would not leave me.

The man stood still, saying "Don't shoot, don't shoot," or rather its equivalent in Chinese. I then asked him who he was and what he wanted, to which he replied that he was a traveller, and that as I had put my tent across an old pathway he had stumbled into it by mistake.

Naturally this lame excuse did not satisfy me, so I called up the cook, whose tent was close by. He came bringing a lantern, and I told him what had occurred. Taking the lantern in my left hand I told him to search my captive, while I kept him covered with my revolver.

All this time I half expected a rifle volley from the woods. Suddenly the cook gave a sharp exclamation, and giving the prison-

er's arm a rapid twist sent a long-bladed, murderous looking knife clattering to the ground. In feeling up the ruffian's arm to see if he had a hidden weapon, he had run his fingers along the sharp edge of the knife, cutting them badly. A drawn knife on a dark night in a person's tent! There could now be no mistaking the man's intentions.

More than ever I feared a rush from the woods, especially as the villain suddenly began to shout for help. I would have shot him there and then, but the cook taking off his nail-studded wooden-soled shoe hammered him on the head, which soon silenced him. I asked him how many there were in his party: he replied twenty-five, adding that they were in the wood not thirty yards distant. He said that if I would let him go he would tell them to go away. I told him that if they did come to his help, he would be the first to die.

But what was to be done? The moments passed tense with suspense. An ominous silence came from the woods into which I peered, straining my eyes to catch any movement. I gave the cook my revolver, and told him to hold it against the now trembling prisoner's body, and not to be afraid to pull the trigger if he tried any nonsense. Then I dived into my tent and secured one of my rifles, which I always kept at the head of my cot.

Coming out again, I told the cook to march the prisoner to the nearest farmstead, about two hundred yards away, there to hand him over to the farmer, and raise the alarm: meanwhile I would try and defend my camp if any attack occurred, or if an attempt were made to rescue our captive, I would come to his aid.

Then I thought of the old boatman and called him out from his bed on the Mermaid, which he would never leave night or day.

He came after a while and the first thing he said on hearing what had happened was "Cut off his ears," and I believe he would have proceeded to suit his actions to his words had I not stopped him. He was furious, and threatened the cringing prisoner with all sorts of horrible things. His rage could be pardoned, however, for once he had been made to sit on a red hot shovel by a band of *hunghutzu*, and none of us doubted that we had caught a member of this dreaded fraternity.

They tied the prisoner's hands behind his back with his queue, pulling his head well back, and with the revolver jammed into the small of his back, the cook marched him off. I heard afterwards that he tried once to get away, and the cook hit him on the head with the revolver, mercifully sparing his life.

Then I told the old boatman what our night visitor had said about there being others of his kidney in the wood close by. By now, however, I was beginning to doubt the veracity of the tale; and to put it to the test told the boatman to throw stones into the brush in that direction. He did this, swearing horribly as he did so. There was not a sound. At last I became convinced that our fears were groundless, and so decided to go and see what had become of the cook.

When I got to the farmstead, there was a great buzz of excitement. A party was being gathered together, armed with picks, shovels, hoes, and one member carrying an old flint-lock gun. But the sight that caught my attention and held it was the wretched prisoner, his hands high behind his back, arms twisted in a dreadful manner, swinging clear from the ground, while a man stood by belabouring him with a shovel. He was crying for mercy.

However angry I was, I could not stand this brutal performance, and immediately had him let down and his bonds released. Then, having secured his arms and legs in a more humane manner, I set about questioning him once more.

He had evidently had a pretty rough time as he was reduced to a wretched state. His tale now was that he had left his home away up the valley, where he had lived with his uncle, who ill treated him because he could not work hard. He had stolen the knife from a neighbouring farm, as he intended joining the band of *hunghutzu* across the river. On his way thither he had passed my tent and seen my rifles, when the idea of stealing them and carrying them as a present to the *hunghutzu* had occurred to him. So he hung around till he thought all was safe and then made his attempt, which proved so disastrous to himself. He made no secret about his intention of using the knife on me, as he said he was afraid of me.

I do not like to think what would have happened to me had I waked a few seconds later, when he would have been bending over me to reach my guns, which, as already stated, always stood at the head of my cot, and the position of which he had ascertained during the day. The cook afterwards remembered seeing someone during the day, staring into my tent with his face close up to the mosquito netting and had told him to go away.

The farmers came to my camp and bravely beat the bushes, but I no longer had any fears of an attack from this quarter, and now that all the excitement was over felt very sleepy. I brewed

a pot of tea, which the cook and boatman shared, and then went to bed, this time to sleep in peace.

The episode created great excitement amongst the natives of the district, and next day I was afforded an excellent opportunity of studying the true communal ways of the Chinese.

All the farmers, rich and poor, came from ten miles around. They soon organized a sort of council of the older men, with a rich farmer from just across the river acting as chairman. A teacher from a neighbouring school took the part of clerk. They asked me to tell them just what had happened, after which they were at great pains to find out just what I intended to do about the affair. But in true oriental fashion they beat about the bush, and I could not make out what they were after. I asked the cook, who being accustomed to my ways came to the point and told me. He also told me that if I handed the man over to the local authorities he would meet with short shrift, as Han Tung-ling, a sort of local chieftain, about whom more anon, was said to deal with all such malefactors by trussing them up and throwing them in the river.

I therefore told the 'court' that I would do nothing in the matter if they would guarantee that such a thing would not happen again. This seemed to please them very much.

They said I had a 'good heart,' was a 'ripe man' and that my 'mercy was great,' after which they proceeded with the case.

The uncle of the prisoner, who had been sent for, was hailed before the assembly, and much to my amusement was held entirely responsible for the whole affair, the prisoner, apparently being considered a minor in his charge. He received a severe lecture and was fined. As it would not have done to take money from him, since such action would have laid them open to proceedings in the law courts, he was advised to kill his largest pig, and to provide a feast for the whole community. Accordingly a pig was brought along, killed and dressed; bread, vegetables and wine (the crude spirits of the country) were produced, and eighty men and boys sat down to the most solemn feast it has ever been my lot to witness amongst Chinese.

The best portions of the pig were brought to me, but I refused them, much to the surprise of the people. Nevertheless they took it as a further token of my benevolence, and solemnly ate the meat themselves.

Then a deputation waited on me to ask if I were satisfied, and to secure my signature to a long document giving a detailed ac-

count of the whole affair with the names of all responsible parties who had been present at the proceedings appended. This they told me was to safeguard the community if the matter ever reached the ears of Han T'ung-ling.

It was left to the uncle to deal with the culprit and I learnt next day to my horror that he and his family had beaten the flesh off the poor fellow's legs in the usual brutal Chinese manner.

It must be taken into consideration, however, that he had cost them the best part of a year's yield; while, had anything happened to me, dire pains and penalties would have fallen upon the community at large. Heavy fines would have been imposed, and the family on whose land I was camped would probably have been expelled, for Han T'ung-ling ruled with an iron hand: at least, that is what they told me.

The people had all along shewn great solicitude for my well being, and I must confess that nowhere in all my wanderings amongst the Chinese have I met with better treatment than I received from these friendly immigrants from Shantung, nor have I ever liked any Chinese so much. With an equitable government, for such they undoubtedly had, a good climate, rich soil and the absence of that carping care and dread that hangs over their heads in their own country, where famine, flood and the avarice of a horde of hungry officials renders their existence a precarious one, these Chinese had blossomed out, so to speak, displaying all that is best in their national character. They were happy, friendly, hospitable, trusting and confiding; so different from the suspicious crafty, avaricious beings they would have been in their own native provinces.

So ended an episode that might have been a tragedy for all concerned, myself in particular, but which, as it happened, served to show me of what the Chinese people are capable, when living under good conditions, with freedom to carry out their genuine ideas of justice, and without the fear of being harrassed by corrupt officials.

That they appreciated my attitude in leaving the whole thing to them was very evident; and when a few days later I bade them farewell, and pushed off from the shore, a large party was there to see the last of me. The men seemed very earnest in their invitations to come back again some day, while the little children, to whom I had given the freedom of my tent, not to mention my jam, condensed milk and sugar, cried outright as we drifted away

Chinese Settlers of the Upper Sungari, Kirin.

A Log-raft about to shoot the Lao-gno Ho rapids, Upper Sungari

down stream. There could be no doubt about the fact that these simple, kindly people, on whose land I had camped, had actually become attached to me during my short stay in their midst, and I could not help feeling touched by a display of sentiment, such as I had almost forgotten existed in the Chinese nature.

CHAPTER X.

The Land of Han Ping Wai, the Robber King.

CHAPTER X.

The Land of Han Ping Wai, the Robber King.

From the very earliest times, Manchuria, with its dense forests, mighty commerce-carrying rivers, and rich plains, has been a happy hunting ground for marauders. Its earliest history tells of small tribes, led by daring chieftains, which harassed and pillaged one another, and even made border raids upon their neighbours, the Chinese and Coreans.

Almost the western-most representatives of the great Tartar race, they possessed all the predatory instincts so typical of those peoples. Rapine, pillage and murder were their pastime, and when the Manchus, one of these self same tribes, rose into power, conquered all the others, and finally seized the throne of the great Chinese Empire, it is not to be wondered at that the greater part of the Manchurians followed them into China to participate in the rich spoils that the subjugation of that country offered.

Thus it appears that Manchuria, somewhere about the middle of the seventeenth century became, to a considerable extent, depopulated of its indigenous inhabitants, and cultivation, except in the valley of the Liao, and in the Liao-tung Peninsula, ceased.

Later, settlers from China began to re-occupy the wilderness, but, unfortunately, these were not encouraged; while the Manchu Government used Manchuria as a place of exile for criminals and undesirables generally. In this way the country became the haunt, once more, of marauders, for these exiles, with no means of earning an honest living, naturally turned robbers, preying upon honest settlers. At a later date, just when, it is impossible to make out, these robbers became known as *hunghutzu*, which means Red Beards, and so numerous did they eventually become that they formed into large bands and harried the whole country, levying tribute upon the farmers and even upon the wealthy merchants of the large towns. Nor has any effort that the Chinese or Manchu Governments have been able to put forth been sufficient to entirely cope with their depredations.

Indeed, famous leaders amongst them have at various times attracted such large followings that they have been able to meet and defeat large government forces. Bands have been known over a thousand strong, and these have been able to take cities.

One method, and hitherto the only really successful one, of coping with these bandits has been to offer them free pardon, give their leaders high military positions, and to enrol the whole horde in the regular army. One of the leading figures in the political world of the Chinese Republic to-day, the Generalissimo of the Manchurian Army, whose influence the Government in Peking has so strongly felt, began his career in the Manchurian forests as a *hunghutzu*, and, rising to such power, was able to dictate terms to a harassed Military Governor. He was made a General, and his following, numbering thousands of the most desperate brigands, became soldiers, forming the nucleus of a very fine command, one that the notorious Chang Tso Lin could depend upon to back him in his political ambitions.

In the last chapter reference was made to a certain local chieftain, Han by name, or to give him his title Han T'ung-ling, and it is now proposed to give some details of the circumstances which made it possible for there to be such a thing as a local chieftain in a province of the Chinese Republic, for such the province of Kirin must be considered.

In explanation it should be stated that the district, in which I had camped and carried on my work, already described, was known to the Chinese as Han Ping Wai's land, and by many and persistent inquiries as to who Han Ping Wai was, and why this stretch of country belonged to him, I elicited the following story:

Some seventy or eighty years ago nearly the whole of this country was forested, with only a very little cultivation along the rivers. As, however, the rich plain of Kirin lay to the north, a prey to marauding bands, the valley of the Sungari was infested with robbers, most of whom went about in small bands, led by men who had shewn their superiority over the others in daring and intelligence.

Foremost amongst these were two men named T'ang Ta Yeh and Han Ping Wai, who together led a large band of robbers and lorded it over an extensive area.

Finally, growing tired of their lives of pillage and plunder mid the hardships of the forest, they decided to settle down, and chose for their kingdom a long, wide stretch of country on the right bank of the Sungari, extending from the Er-tao-kiang in

the south to the P'iao Ho in the north, a distance of at least a hundred miles, and running inland from the river's bank about twenty miles. Over this district, roughly two-thousand square miles in area, these two doughty warriors held despotic sway. They built a strong stockade at a spot called Hua-shu Lin-tzu (Birch tree forest), and parcelled out the land on a feudal system to their followers. Subsequently they allowed other settlers to come in under the same system, making them pay one tenth of their year's yield in kind or cash to their overlord.

The land-holders were protected from robbers and bandits by a strong body of expert woodsmen, ex-bandits themselves, maintained and equipped by the chieftains at Hua-shu Lin-tzu. With these daring followers and the impenetrable forest on all sides to guard them, T'ang and Han defied the Chinese (*i.e.* Manchu) Government, taking toll of all traffic which passed up or down the river.

The magnificent timber reserves were exploited with great profit, and when the country was worked for gold these daring marauders took heavy toll of the proceeds, thus, in time, becoming fabulously rich.

At last T'ang Ta Yeh, who seems to have been the leader, died, and all the power and wealth passed into the hands of Han Ping Wai, who appears to have assumed the title of *Wang*, (King or Prince).

As the Chinese Government could do nothing with this arrogant upstart, it resorted to the method already referred to, and by acknowledging his chieftainship secured in return a certain amount of tribute. Han was also given the official rank of General, in exchange for which he gave up his self appointed title of Wang. Further his absolute jurisdiction over, and ownership of, the district he held was confirmed.

The arrangement was mutually beneficial, for the Government won a powerful ally in the difficult task of maintaining law and order, besides acquiring a yearly very handsome tribute, while Han no longer had to be on the watch for a military expedition against him, could visit and even live in the city of Kirin, and had his title to the land he had acquired by force ratified, and so preserved for himself and his descendants.

To this day the stretch of country is called by the local natives Han Ping Wai's territory, and though the present owner is the grandson of the old chief, he is still known by the same name.

From the first a relentless warfare was waged upon all other bandits, so that the territory soon became free of these pests. Even now it is known far and wide as a haven of refuge, and settlers eagerly seek the privilege of entering its confines, while any *hung-hutzu* who is found in it is summarily executed.

The present *T'ung-ling* maintains a select band of five hundred expert woodsmen, strong, husky fellows, and all well armed, to patrol the country.

The qualification for enrollment in this regiment is that the candidate, having been put down at any point in the forests, no matter how far away, must be able to subsist on the land and find his way back to headquarters in a reasonably short time. He must be able to shoot straight as well.

Strangely enough this means that only hunters or *hunghutzu* need apply, and as hunters prefer, as a rule, their own occupations, it follows that the force is largely recruited from robbers. "Set a thief to catch a thief" seems to be the motto, and evidently it works well.

One of these woodsmen guards, or perhaps the best term to use would be foresters' visited me one day in my camp at Yen-t'ung La-tzu. He was a tall magnificently built specimen of humanity, clad in a uniform of khaki drill, with a blue cloth twisted into a turban on his head, and the peculiar leather moccasins, called by the Chinese *Wula*, upon his feet. To his belt at the back was attached a dressed badger skin, hairy side outwards, and so arranged that when he sat down it formed a protection from the damp. Rifle, knife and wallet completed the uniform and kit of the regiment, and anything more suitable for the purpose would be hard to imagine. The rifle, I noticed, bore the Russian Government stamp and a number burnt upon the stock, which the forester said was a relic of the Russian occupation. He also carried attached to his belt a piece of wood, whereon a number and some Russian words were stamped. This he said was a protective slip, issued by the Russians to prevent Han's men being mistaken for *hunghu-tzu* and shot. This man and many others I talked to in this district seemed to think that some day the Russians would come back.

Besides these men, Han T'ung-ling, by reason of his office is entitled to draw upon the Kirin militia in case of emergency.

The natives told me a somewhat amusing story of an incident in the Russio-Japanese War. The retreating Russians wanted to cross the Sungari and enter Han's territory at Hua-shu Lin tzu; but the *T'ung-ling* refused to allow them to violate his neutrality.

Thereupon a fight ensued. Of course Han's guards, armed only with discarded Russian rifles, and, in the place of artillery, the old-fashioned gingals, were easily beaten, Hua-shu Lin-tzu was burnt and Han and his followers driven to the shelter of a side valley. Here he built another stockade and made a new home. Some time after the war was over, the Russian Government indemnified the *T'ung-ling* for his losses, and Hua-shu Lin-tzu was rebuilt: but, though it is still the seat of government, the family has lived ever since in the stockade up the valley, while the present *T'ung-ling* also has a home in Kirin city, where he spends a good deal of his time.

So much for the history, as I got it, of this interesting stretch of country and its ruler. It was hardly likely that, having heard all this, I should miss an opportunity of visiting Hua-shu Lin-tzu.

Within a couple of hours of leaving Yen-tung La-tzu, we pulled up at the wooden wharf of the stockade, and, donning my best clothes, I went ashore to pay my respects to the chieftain, and to have a look round this interesting spot.

Han Tung-ling and his family were away at Kirin, so I was much disappointed in not getting an interview. Nevertheless his people received me well, and I was conducted on a tour of inspection; and as the place presented features not usually met with elsewhere, even in Manchuria, it merits description.

Imagine, then, a high wooden palisade enclosing a series of buildings of the usual Chinese style, but large and airy, with wide courtyards. Within its confines were granaries, carpenters' shop, blacksmiths' forge and store-houses of all kinds, as well as barracks for the guard and living rooms for the motley throng of servants, labourers, and clerks employed on the premises. On the river front several boats were in the course of construction, while all round the palisade magnificent logs of timber were stacked, or being sawn up into planks. Boats laden with grain brought the tribute from up stream; others waited to carry it down to Kirin for sale. Perfect order reigned, everybody had his appointed task and did it. A row of shops lined the river-front, where all sorts of things were sold to neighbouring farmers: there was a sort of market place, where the land-holders might barter the results of their industry. Everything belonged to Han: all, except the people who came to buy or sell, were his servants. His were the shops, his the boats being built on the bank; and, in a manner of speaking, his too were the farmers who came to bring their tribute.

One almost felt that here was a modern example of just how things began with the Chinese people in the early days in far away Shensi, when first one petty chief and then another rose into power and formed the early dukedoms, and kingdoms and finally the dynasties.

The Chinese form of government, though in a way despotic, has always had for its ideal the welfare of the *people*. Long before King John signed the Magna Charta, this ideal was firmly established in the Middle Kingdom, and it has only been at the close of each successive dynasty, when the rulers have become corrupt and the Emperors vicious and decadent, that the people have suffered. Here in Han Ping Wai's territory the old system, working in all its pristine simplicity and efficiency, holds sway.

The people are happy and prosperous. They are even allowed to manage their own criminal cases, where such occur, as witness the incident described in the last chapter, yet none can call the land on which he lives his own; while his feudal lord, the *Tungling* has, or had at the time of my visit, despite the new republican ideas, absolute power of life and death over him.

At Hua-shu Lin-tzu there was a large deer farm, which I was taken to see as a great favour. It must be understood that the Chinese value 'harts-horn,' made from the soft horn of the stag while in velvet, as a highly efficacious medicine. The horns are cut off at the right stage of growth, carefully dried, and then ground to powder, when the stuff is ready for use. The horn at this period is called *lu-jung*, which means deer's wool. Sometimes the soft undried horn is called *shueh-chiao* or "blood horn." The horns of different species of deer are valued differently. Thus roedeer horns are worth but little; wapiti horns fetch a high price; while the horns of the sika or spotted deer are considered the best. Of the last named, the finest quality are supposed to come from Manchuria. Deer are farmed in Manchuria simply and solely for their horns, which are cut off at the right moment; and though these horns from the living animal are not considered of the same medicinal value as those taken from the wild deer, killed in the chase, they nevertheless fetch a sufficiently high price to make deer farming very profitable.

There were about a hundred deer on this farm, most of which were does. These were allowed to wander at large in an extensive enclosure; but the bucks, whose horns were now in velvet, were kept in small pens, where they were most carefully tended and watched.

Sika Does on a Manchurian Deer Farm, Hua-shu Lin-tzu, Upper Sungari River.

A Young Tiger from the Ever White Mountains, Kirin.

In order to get the best growth of horn, they must not be frightened or disturbed, and to ensure this quietude, guards were posted at regular intervals outside the fence that enclosed the farm to keep off all intruders.

There were the two species of deer on the farm, the great wapiti (*Cervus xanthopygus* M.-Edw.) and the elegant sika (*C. mantchuricus* Sw.). The latter were the more numerous on account of their greater value, and I was very glad of a chance of studying them, for, owing to the high value of their horns (*i.e.* from £30 to £40 per pair), they have diminished in the wild state to a point bordering on extinction. In the course of my wanderings in Manchuria I never once came across any sign of this species in the wilderness itself, nor have I met many native hunters who have seen them within the last few years. A Russian hunter told me he had shot one in the North Kirin forest some years ago, while I saw a Tartar hunter on the Lower Sungari carrying the horns of one he had recently killed in the Jao Ho region of North-eastern Kirin, near the Ussuri. They still occur in the depths of the Kirin and Heilungkiang forests and in the valley of the Ussuri and probably to the east of that river. They are said to be common in North Corea, where of late years the Japanese have protected them for the chase in winter.

Some days before I reached Yen-t'ung La-tzu a hunter had passed through the district on his way down from the Er-tao-kiang with a couple of young tigers. He had stolen them from their layer while the mother was away hunting for food, and he hoped to sell them at a price sufficient to remunerate him for the serious risks he had run in securing them.

Arrived at Hua-shu Lin-tzu, he was induced to present them to the T'ung-ling, receiving in recompense a present of two hundred dollars.

When I arrived on the scene the little tigers were at large in the compound, each in the charge of a keeper, who had orders not to allow it out of sight. A young tiger is considered almost as valuable a perquisite as a sika deer. To begin with the skin of a fully grown Manchurian tiger—whose proper scientific name, by the way, is *Felis tigris longipilus* Fitzinger—when at its best fetches a price of from £30 to £50, but what are very much more valuable in the eyes of the Chinese are the bones, blood and claws, all of which are supposed to have powerful medicinal properties. These fetch a high price at the apothecary. The bones are be-

lieved to make men brave and strong; the blood is said to cure tuberculosis; and the claws are used to scratch abcesses and other eruptions of the skin.

So the baby tigers were being treated like princelings, and walked about the place as if they owned it. Though so small they were inclined to be ferocious. I was shown a man with a crushed elbow and badly mauled arm, and was told that one of the little tigers had done this on being teased. Strong cages were in process of construction for the little brutes, a very wise precaution considering that there were a number of small children playing about.

I managed to secure some good photographs of the deer and tigers, after which, having duly tipped the men who showed me round, I returned to the "Mermaid," and we continued our journey down the great Sungari River.

CHAPTER XI.

The Sungari River.

"I sing of a brooklet wide
    Green banks on either side
Through meadow and forest it winds along,
Till it grows a river so bold and strong;
And masted ships on its breast I see,
That onward sail to the mighty sea

"I sing of the grey cliff-side,
    Where sobs the swirling tide,
On vast eternity of sea,
The swift brown river has end with thee.
So flows Life's river till time shall cease,
Till it gains the sea of Eternal Peace."

—*Wordsworth.*

CHAPTER XI.

The Sungari River.

Hitherto I have said but little about the great Sungari River itself, which was now to carry us so many miles upon its heaving bosom, though it has been mentioned a good many times in the course of my narrative up to this point.

Having its source in the Ever White Mountain, it flows north-west through mountain-valley and forest for upwards of a hundred miles before it debouches on to the plain whereon the great city of Kirin is situated. Fifty miles from its source, while still in the heavily forested regions, it is joined on the right by the Er-tao-kiang, (lit:—Second River), which also springs from the flanks of the Ever White Mountain. The Sungari is said to originate in the Dragon Prince's Pool, the lake that occupies the extinct crater of the Lao Pei Shan, or Paik-tu-san, the culminating peak of the Ch'ang Pai Shan. The two streams combine to form a mighty volume of water, which, but for the numerous rapids, could carry steamers of considerable tonnage. They fall rapidly during their first fifty miles and their speed when they join together is tremendous. This rushing torrent roars over dangerous rapids, the most formidable of which is known to the Chinese as Lao Gno Ho, or the Old Hungry River, and up which no boat may travel, though there are not wanting intrepid raftsmen and sailors who will essay to shoot them when not in flood.

These rapids occur, as far as I could gather, about ten miles below the junction of the two rivers, and, naturally form the terminous of all up-going boat traffic.

From here down to Yen-t'ung La-tzu, where I camped, the Sungari, or as the Chinese call it, the Sung-hua Kiang, winds in and out between massive headlands and through deep-cut gorges of basalt. The precipitous sides rise sheer from the water's edge from two to five hundred feet, and the gorges for beauty rival the far-famed Yang-tzu Gorges.

An enormous amount of timber is brought down the river from the forest-clad flanks of the Ch'ang Pai Shan. Magnificent logs

of from thirty to fifty feet in length and from three to five feet in diameter form the pick of the timber that is cut. These, together with smaller logs down to six-inch poles, are made into long rafts, which are floated down stream under the charge of a foreman and crew. The business is an extensive and lucrative one, and as such demands more detailed description.

Late in the autumn, before the winter snows have blocked the paths, the wood-cutters travel by land up to the great forests, where they choose suitable camping grounds on the banks of the river or along some side stream. Here they spend the winter felling trees, hauling the logs over the snow, and stacking them at convenient distances from the water's edge. Holes are cut in the ends of the logs, which are sometimes even trimmed of their bark. With the advent of spring the logs are strung together by means of twisted saplings to form sectional rafts of anything from thirty to fifty feet square, and two or three tiers deep, according to their size. These sections are next fastened to each other to form one long raft of from one hundred and fifty to three hundred feet in length. At each end of this enormous oars or sweeps are fastened, while huts are built in the middle to shelter the crew at night. The raft is then ready for its somewhat hazardous journey down to the timber markets and yards at Kirin, some even going on to Petuna or Harbin. The foreman, who is usually the capitalist and owner as well, becomes captain, and takes his place at the centre sweep in the front line, the wood-cutters each choosing a sweep. The enormous steel or hemp cables with which the raft is provided are cast loose, and away goes the clumsy contrivance.

Some rafts are made up entirely of small timber for fuel, while others are composed only of the best and largest timber, but usually they are a composition of all kinds, the woodcutters having taken everything that came in their way.

An average sized raft has a crew of ten or fifteen 'hands,' with five or six sweeps at each end, but I saw many which had from ten to fifteen sweeps at each end, with crews to correspond.

The latter are paid only when the timber has been sold in Kirin, but the foreman has to provide for them from the time they start for the forest till the raft is safely landed and disposed of in Kirin. From what I could gather the foreman or capitalist often made a profit of 200% on his outlay.

Pine, larch, and oak formed the valuable timber of the rafts I saw, but other stuff filled in nicely and fetched good prices as fuel.

There are several risks to be faced, the worst of which is shooting the rapids. Sometimes, as happened the season I was there, excessive rains cause the river to rise so rapidly that the rafts are torn away from their moorings before completion, and are carried away. As already stated, while in camp at Yen-t'ung La-tzu I saw hundreds of logs drifting past. A bounty of twenty cents can be claimed for salving these logs, but no one down the whole length of the river dares try to steal one. They are all stamped with the owner's mark. The instrument used for stamping is a heavy hammer, the head of which has been fashioned to the shape of some special mark; and when the soft greenwood is smartly tapped, it takes a permanent impression of this mark.

On the morning of our departure from Yen-t'ung La-tzu, the river was shrouded in a heavy mist, through which the sun was trying to pierce its way. Not a sound disturbed the soft stillness, except the low rumble of the swiftly moving waters as they divided upon a great rock that loomed up somewhere ahead of us. As yet the birds had not commenced their song, while the frogs had long since ceased their resonant croaking.

By rights I should have waited till the mists lifted, in order to see our way clearly, but it occurred to me that these self same mists would serve very nicely to hide us from the shore and therefore from the lurking band of *hunghutzu* that I now knew beyond doubt to be waiting for me somewhere near the mouth of the Hui-fa Ho.

I had packed the "Mermaid" in such a way as to form a breast-work of my tents and boxes, and my rifles lay handy, ready loaded for immediate use. I did not mean to be robbed without putting up a fight, a sentiment with which the cook and the old boatmen both agreed. The latter had a peculiar and vindictive hatred for all *hunghutzu*, and he told me one day why.

It seemed that at one time he had owned three large boats, and used to make a good living by carrying freight up and down the river. One day a band of *hunghutzu* held up him and his crews, robbing them of everything they had. Not satisfied with this they demanded some three hundred dollars more; and to enforce their demands treated the owner of the boats to a dose of the red hot shovel. He showed me the terrible scars on his back. In the end he sent the boats and crews on to the nearest town with orders to sell the boats and bring back the required ransom. "Ever since then," said the poor old man, "I have had no heart."

But even if he had no 'heart' he had a great belief in my rifles and my power to use them; and so seemed rather to welcome the idea of an encounter with his old enemies. Personally I was far from sharing his enthusiasm, for I knew that the bandits would lie in wait at some spot where the deep channel ran in close to the shore, and when we appeared would step out of the bushes with rifles pointed ready for immediate use. Their methods had been graphically explained to me by some of their victims.

Presently the long-drawn wail of a raftsman calling the attention of his crew to some signal that he was about to give was wafted from up stream to us. Another was heard away below some small rapids, and we realized that, though nothing was visible, not even the banks, we were not the only travellers upon the broad waters.

As the mists thinned we shot past the mouth of the Hui-fa Ho. Again they closed in only to be dispelled after a short while by light puffs of air and the gathering warmth of the sun's rays which drew them upwards. Then as they lifted a scene of unparalleled beauty was unveiled to our gaze.

Great towering cliffs, with their clear-cut columns of dark basalt, supported upon their crests masses of luxuriant foliage. From the river's edge a tangle of small-wood and clinging vines, too insignificant to tempt the woodsman's axe, sloped rapidly up to where the sheer walls of rock commenced. Where the deep waters ran smoothly, they mirrored in minutest detail pebbly marge, and shingle bank, gnarled and twisted trunks, leaf, twig and weathered rock. The whole wealth of bird-land burst into ecstatic song as the sun flooded everything in golden morning light, and the last stray wreaths of pearly mists rolled away up the side ravines, vanishing into thin air as they went.

By eight o'clock we reached Hua-shu Lin-tzu, and after paying the visit described in the last chapter, we pushed on down stream.

Now the surface of the river was like plateglass. Not a breath of air disturbed it. It was too deep for us to punt the "Mermaid" along, so there was nothing to do but drift: and drift we did. For ten miles no obstacle or difficulty confronted us. We just sat idly smoking. Nothing could have been pleasanter, nothing easier; yet one was not altogether content. Somewhere ahead were some deadly rapids called the Hsiao Gno Ho, Little Hungry River, or Waters. Somewhere along the river's bank lurked that *hunghutzu* band. I hoped we had passed them, but could not be sure. For

A Misty Morning on the Upper Sungari: log raft floating down to Kirin City.

an hour I turned these things over in my mind as I sat in the stern of the "Mermaid." Then a brilliant idea struck me. It was inspired by the sight of a large raft that was slowly overtaking us. Why not make fast to the raft?

I communicated my idea to the old boatman, who hailed it with delight. He said that though a native boat would not be allowed to do what I had suggested, there would be no difficulty about our doing so.

Consequently, when the raft overtook us, I hailed the captain and asked leave to travel down with him. He at once gave his consent, and in less time than it takes to tell, the "Mermaid" was securely lashed by stern and bow to the raft, and I commenced one of the most delightful journeys of my life.

The arrangement was ideal for all concerned. No robber gang would attempt to hold up a raft, knowing that it would be impossible for the crew to respond to the demand to halt, even at the risk or with the certainty of getting shot at from the shore. The old boatman exchanged the work of looking out for rocks and paddling the bow sweep for a life of ease, only occasionally relieving one of the raft's crew at the long sweeps whereby it was steered. The cook could attend to his duties of preparing my meals in comfort, spending the rest of the day lying in the shade of one of the huts. The captain of the raft gained three extra 'hands' in case of emergency; while I exchanged the cramped quarters on the "Mermaid" for the freedom of a hundred and fifty foot raft, at the same time shifting all the anxiety of shooting the rapids on to shoulders more capable of bearing it. If by any chance we were attacked by robbers, there would be a good chance now of getting the better of them.

As a matter of fact it turned out later that we passed the band that was lying in wait for me at the mouth of the Hui-fa Ho; but to show that my anxiety was anything but groundless, I may state that a few days later some of my missionary friends from Ch'ao-yang Chên attempted the passage down the Hui-fa Ho and Sungari to Kirin. Just as they were nearing the junction of these two rivers the band of *hunghutzu* suddenly stepped from the shelter of some willows, and with rifles levelled ordered their boat to come to shore. The missionary and his wife with their servant and two boatman were taken absolutely at a disadvantage and perforce had to comply with the order, and so were relieved of everything they had.

Life on the raft was very pleasant. The river was perfect for bathing, and I soon found that several of the crew were good swimmers. We used to dive into the warm waters and swim round the raft, afterwards lying about in the sun.

Then there was the beautiful scenery to admire, fish to be caught, birds to be watched and a hundred and one delights to while away the glorious daylight hours.

The first day we made about fifty miles, and then came the ticklish job of mooring that huge mass of timber to the bank for the night, the river being too dangerous to navigate except by daylight.

I have no way of estimating the tonnage of that raft, but can give some idea of its size. It was one hundred and fifty feet in length and thirty feet in width, and was made up of three tiers of thirty foot logs, each log from twenty four to thirty-six inches in diameter.

The current carried this mass of roughly twenty four thousand cubic feet of timber down stream at an average rate of four miles an hour, and in mooring it to shore deep water must be chosen, for on no acount must the raft be allowed to ground.

It can be imagined, then, what bringing it to a standstill meant. First, by a vigorous use of the sweeps, the raft was worked towards the side of the river, where overhanging cliffs and steep banks afforded but little foothold for the half dozen members of the crew who jumped ashore with the great stern cable. They scrambled ahead of the raft, and, choosing a stout tree, twisted the hauser round the trunk. As the strain commenced the rope was loosened, but not before the check had made a distinct difference to the speed of the raft. Then the men rapidly unwound the rope and repeated the manoeuvre. Thus bit by bit the great raft was pulled up, till, at last, the cable was made fast and we were secure for the night.

About noon of the second day we approached the dreaded Hsiao Gno Ho rapids. To add to our anxiety, for in spite of my confidence in the captain I was beginning to picture to myself disaster, two other big rafts were close at hand, one just ahead and the other behind us. The captain growled at this in an undertone, cursing his luck that at this particular moment the unwieldy crafts should choose *ta chang*, as he called it, meaning 'to compete in a race.' It must be understood that the crews of these rafts have no control over their speed beyond keeping them in the swiftest part of the current, and that the heavier and larger the raft the faster its speed.

Isolated Column of Basalt called Yen-tung La-tzu, and giving its name to the area. Upper Sungari River, Kirin.

Columnar Basalt formation on the Upper Sungari, above Kirin City, Kirin.

The raft behind us was a three hundred foot one, with eleven sweeps in the bow, and she was rapidly gaining on us as the current became more swift. We in turn were overhauling the smaller raft in front of us.

Presently a row of great, smooth, flat rocks appeared ahead of us, stretching right across the river; and our captain now headed the raft for a narrow gap in this barrier.

I saw the men at the bow sweeps on the raft ahead of us dip out of sight; then the hut in the middle disappeared, and then the last row of logs up-ended as they, too, reached and swept over the rapid, the stern sweeps for a moment flashing clear of the water.

I had perched myself upon a great tree stump that lay on the logs near the bow, in order to see more clearly, but, before I was able to see whether the raft ahead of us had emerged safely from the maze of rocks, our captain gave a tremendous shout and down we plunged. Straight for an enormous rock we went, and when but twenty feet away, and disaster seemed inevitable, the bow sweeps commenced to work violently, and we swung aside clearing the danger with but a foot or two to spare. I glanced wildly round at the "Mermaid," expecting to see her strike and go to pieces, but ere she reached the dangerous point the raft had swung well away, and now the stern sweeps were madly working to keep the tail from whipping round the rock. Scarcely had they got clear when there was a terrific jar and rumble as of thunder. I was shot off my perch. One or two spare hands, the cook, and the old boatman, who were standing in the hut, were thrown from their feet. A great ripple ran the whole length of the raft as she tore over a sunken bar of rock. I saw the "Mermaid's" bow rise into the air, and then her stern. A wave broke over the side, and then all was calm again, and we were gliding down stream in the clutch of a mighty current.

The captain's face was wreathed in smiles, several of the crew lit pipes, as though nothing unusual had happened; but I felt as one should feel after passing through such an experience. The slightest error in judgment on the part of our captain, and the raft would have crumpled up like matchwood. They told me that every year several boats and rafts were smashed up at the Hungry Waters, and none of the crews had ever lived to tell the tale.

There remained now but a couple of anchorages and we would be in Kirin.

That night disaster in another form very nearly overtook us. As usual half the crew jumped ashore to pull up the raft. The man

in charge bungled the job, and put on the strain too suddenly. With a ringing tang the hauser parted and away we went minus half our crew. Suddenly the nose of the raft caught on a projecting rock, the middle bulged in towards the shore, while the tail gradually swung round, doubling upon the rest of the raft, threatening the "Mermaid" with destruction. The few of us that were left rushed to the stern sweeps and with might and main strove to straighten the raft out again. It was a strenuous few minutes, but we managed it, and the captain jumped ashore with the second hauser and made fast to a tree. Another few seconds, and the raft would have sandwiched the "Mermaid," and then gone drifting down stream separately, where the two parts would doubtless have gone to pieces on the numerous rocks that continually threatened all traffic upon the river.

One more day of the most delightful lazing about, one more hazardous tie up at night, and we were within twenty miles of our destination.

As we swung clear that last morning I noticed that the wind was in the right quarter, and blowing steadily, so I bade farewell to the captain and crew of the raft, thanking them for their hospitality, cast off from her friendly wharfage, hoisted the "Mermaid's" big sail and away we went. That last sail was not the least enjoyable part of the trip. The "Mermaid," under the stiff breeze became a thing of life, requiring one's whole attention to keep her in her course. We showed a clean pair of heels, if such a phrase can be used of a boat, to all the other craft on the river, though one big boat tried hard to beat us in the race.

The old boatman was delighted. Never, said he, had any foreigner handled a boat under full sail on that river before, and that next time I should come, I could be sure of engaging boats and crews without any trouble. I could not help feeling a little flattered at the old man's praise, for I had had very little to do with sailing boats up to this, nor could I refrain from a gentle smile at the thought of his face, could he but have seen my attempts during those first two days on the Hui-fa Ho, when I drove her on to sand-banks, scraped her over rocks and nearly capsized her against the fish boom.

When, disregarding his advice to pull up first and lower the sail, I put the boat's nose at some small rapids and shot them without mishap, threading our way through a maze of small rocks, the old fellow's face lit up, and all he could do was to raise his thumb, signifying that he considered me 'number one.' Not even an ex-

The "Mermaid" tied to a log raft on the Sungari River.

perienced river-man, he said, would have tried that, but I was in a happy, reckless mood at the thought of my mail waiting for me at the Mission Station at Kirin.

The cliffs and mountains had been left behind early in the morning, and now only low reed-covered banks glided past. Presently the outskirts of the city hove in sight, and we passed mile upon mile of rafts moored to the side, waiting to be passed by the customs officer. Soon they were four and five deep, while the low banks were piled high with lumber. This continued the whole length of the water frontage, and beyond for a total distance of about six miles.

Swarms of boats of all sizes ten or twelve deep lined the rafts, which lined the shores. I had never seen such numbers of boats, and easily understood why the Chinese name for Kirin city is Ch'uan Ch'ang, the Field of Ships.

Arrived opposite the Mission Station, I went ashore, secured my mail, which had been kindly held for me by the resident missionary, and then went to the Railway Station to enquire about trains. Here I found that a wash-out had occurred between Kirin and Ch'ang Ch'ün.

However, a small steamer was due to sail for the point where the Chinese Eastern Railway crosses the Sungari, so I booked passages on her.

To settle up with the old boatman I made him a present of the "Mermaid," whereupon he went down on his knees, and gave me three reverent *kow-tows*. He could hardly speak, but his eyes sparkled like a child's. Never was giver more recompensed. The old fellow hung about till the steamer started, and the last I saw of him, he was standing in the stern of the "Mermaid," waving his hand like a madman, to the unspeakable surprise and amusement of a crowd of boatmen standing about.

If ever I get to the upper reaches of the Sungari again, and can find him, there will be one man who will welcome me back, and who will be ready to risk another journey with me at the tiller.

The journey to the great bridge that spans the Sungari was uneventful. It began at dawn and ended at dusk. The mighty river wound continuously over a wide, fertile plain, and only as we neared our destination did we come to some low rolling hills.

A guard of white-bloused Russian soldiers was stationed at this point, and I well remember their singing the evening hymn, as we climbed up the steep bank to the railway line, where a train waited to carry the passengers from the steamer to the nearest

station. Here I managed to get a meal, the first I had had that day, for I found that no food was supplied on the steamer, and I had packed all my supplies, such as they were, in my boxes, which were in the hold of a large barge in tow.

I caught the night-mail, and two days later reached Tientsin once more, after an absence of over three months. Thus ended my first real experience of the Manchurian wilderness.

CHAPTER XII.

On the Yalu River.

The earth was of such a grace,
That it of flowers hath a plenty,
That both in summer and in winter be.
There sprang the violet all new,
And fresh pervinké rich of hue,
And flow'rs yellow, white and red;
Such plenty grew there ne'er in mead;
Full gay was all the ground and quaint,
And powder'd as men had it paint,
With many a fresh and sundry flow'r.
That casten up full good sav'our.

—*Chaucer.*

CHAPTER XII.

On the Yalu River.

There are many ways of pursuing a journey in the ancient land of China and adjoining territories. Horseback, railway train, cart, mule-litter, sedan-chair, and shanks' pony, each in turn presents itself to the would-be traveller, but none make so alluring a picture as a small sailing boat upon a river, even though it be nothing more pretentious than a Chinese *sampan*.

On such a journey much of the discomfort of travel is eliminated; while all the pleasures are accentuated and increased a hundredfold.

Water, with its infinite possibilities in effects of light and shade, tint, tone, colour and reflection, has unspeakable advantages over dusty roads; and who in his senses would exchange the smooth, easy motion of a boat under full sail for the jogging of a litter, the bumping of a cart, or the ceaseless din and vibration of a train? Who would not prefer the lazy hours' reclining at ease upon the deck, watching the landscape float by, listening to the ripple of the waves, or the song of the boatmen as they swing their brown bodies to the rhythm of the oars, to the fatigue of riding the livelong day over rough country roads, or even more wearisome 'foot-slogging'?

Therefore, when the appointed time came for me to make a first preliminary trip to Corea and neighbouring South Manchuria, the Yalu River at once suggested itself as the best way in.

A steamer trip, covering the best part of five days, owing to a stop-over at Dairen, or Dalny, which allowed of a visit by train to Port Arthur, and a tour of inspection in that historic district, ended at Lang-t'ou, a small village and Customs station on the estuary of the Yalu. Thence it was necessary to take a *sampan* up stream to Antung, a large and busy town, which in recent years has superseded the more ancient town of Wi-chu, lying a little further up stream on the opposite (Corean) bank of the river.

Here, through the help of kind friends in the Customs Service, accommodation at a Japanese hotel was soon found, and be-

fore long a boat capable of carrying my full outfit and personnel was engaged at the reasonable figure of $39.00 per month.

The boat hands turned out to be excellent fellows, the owner, hailing from Tientsin, being an expert in the handling of his *sampan*, for such was the craft, under any conditions that might present themselves, such as sailing under full canvas where baffling wind eddies are caused by the configuration of the hills through which we must pass, or negotiating rapids. The second hand, or mate, was a mere lad, stalwart beyond the average, but still only a big, likeable boy, with an inordinate appetite for hard work, food, and practical jokes.

Antung is not a place one would recommend to tourists. It is new, Japanized, and, to the casual visitor, uninteresting to a degree. Nevertheless, the place has its attractions. For instance one is told that the pheasant and woodcock shooting during the seasons are excellent, especially over on the Corean side of the river, where the Japanese insist upon licenses for guns and enforce a strict close season from May to September. Then, too, the town, and the whole district, for that matter, might be found interesting from the ethnologists' point of view as being the point of contact of three Asiatic races, Japanese, Chinese, and Corean. These may be seen living side by side, each borrowing but little from the civilizations of the others, preferring its own.

At this point I am tempted to wander into a discussion upon the Corean and his relations with the Chinese and Japanese; but as this was my first experience of that antiquated gentleman with his top-knot, high-crowned hat, and voluminous white pantaloons, I combat the temptation for the moment, contenting myself by saying that neither I nor my servants were favourably impressed by the *Kao Li*, as the Chinese call the Coreans. I was far more interested in the servants' impressions than my own, for they were those of a people more fundamentally in contact with the Coreans than I could ever hope to be.

To me the Corean appeared to be a prey to the Japanese, who nevertheless profess to be doing their best for his welfare; a butt for the wit of the Chinese, who evidently envy the Japanese their protectorship; and himself a poor, shiftless creature, content if he can but catch a few fish a day, while his wife and daughters till the soil, cut wood, carry water, mend nets—in short, do nearly all that is necessary for the maintenance of a wretched homestead and a meagre existence. The Corean loves strong liquor, and when he can get a stone jar of the crude, raw stuff from the Chinese, known

as Shao Chu (Pekinese), or Sam shu (Cantonese dialect), will sit all day with his cronies, smoking his long-stemmed pipe, and drinking himself into oblivion.

My servants and the boatmen simply laughed at and despised the Coreans, considering them of no account whatever. The Japanese appeared to rule them with a rod of iron, which may account for the listless and apathetic attitude of those I came across. Whatever the cause the picture of this down-trodden people, once a powerful race, is a sad enough one.

The boat having been engaged, I was anxious to leave Antung as soon as possible, so, after buying supplies and transacting a little business in the way of exchanging my Mexican dollars for twenty and ten-cent pieces at the local Japanese bank, we cast off from the quay at noon on the day following our arrival. We just caught the incoming tide near its flood, and it sent our boat racing up stream at an exhilarating rate.

The great railway bridge that spans the river below Antung, the tall Customs building, the saw-mills, and offices of the South Manchuria Railway Company were gradually dropped below the horizon, as we headed in a north-easterly direction; and one breathed with renewed vigour and satisfaction as one realized that it was the last sign of 20th Century civilization we were leaving behind, while in front of us was opening up a new world of interest.

A wind sprang up out of the west coming inland from the sea, and our big square sail was hoisted and set. Away we went scudding along, beating the racing tide, and making the waters rush past us as though we were in a mill-race. The spray fairly hissed as our wide prow threw it up and scattered it to right and left. The gallant craft careened over as the wind increased, and our pace with it. We soon overtook a small Corean dug-out canoe, which itself was making rapid headway up stream under a small square sail that looked ridiculous beside our own great stretch of canvas. We all but ran down a craft, similar to our own, which was making wide tacks in an attempt to get down stream in the teeth of the wind. We met a large Corean boat, consisting of a huge hollowed out log with superimposed wooden splash-board, beating down stream under the impulse of crude oars, and the respective crews exchanged witticisms which contained more than a tinge of abuse. We dropped the miles behind us, the old *sampan*, for the time being converted into a pleasure yacht, gliding swiftly over the clear, blue waters, the very poetry of motion.

For my part, I was content to lie on the forward deck and just watch the low hills go galloping past, and taller, more rugged peaks come rushing up to meet us. These with the great billowy clouds banking up behind us, the lazy white gulls and terns floating overhead, the grey herons and snowy egrets along the banks, and the distant sails of other river craft racing up stream ahead of us, combined to form so perfect a picture that one's very soul was drawn out in praise and thanksgiving to the Creator, for the gifts of life and the power to see and enjoy.

Presently as the slanting sun cast long, purple shadows over the rippling waters and lit up the higher hill-crests with pink, the wind began to die down. It wanted but three miles to reach a good anchorage for the night, so, as the wind failed altogether, punt-poles were got out, and the crew punted the boat along till in the gloaming the twinkling lights of a large village were seen. Half an hour later we squeezed our way to the bank between two larger boats, that formed units of a long row of crafts moored to the shore for the night. We had come forty miles in seven hours.

And now the smell of frying fish and garlic arose on all sides, as the evening meals were prepared. The boats' crews sprawled over the decks in an ecstasy of contented rest after a hard day's work, or lounged over to look at the foreigner and ask the usual inane questions, to which no answer was either expected or given. The Captains of the various boats hailed each other, comparing notes upon their cargoes, destinations, or experiences.

Anon, when the large basins of boiled maize or millet had been satisfactorily disposed of, and the chilly evening mists began to rise, the men began to turn in. The slam and clatter of hatches gradually died away, as one by one the crews disappeared below, till at last the pale moon looked down upon a row of close-hatched *sampans*, and a lonely European sitting upon the high stem of one of the smallest of them, smoking a meditative evening pipe. And so ended the first day.

I awoke in the morning to find the boat well under way. As there was no wind yet, and the current was not too strong, the two boatmen were busy with the poles. A wash in the clear, cool waters rushing past, and the donning of shorts and jersey were but the work of a moment, after which I took up a spare pole and helped to punt the boat up stream. It was exhilarating work, and in half an hour I was more than ready for my breakfast of fried fish and rice, which the cook had been preparing.

Sunset on the Yalu River.

The Russian Break-water at Dalny (Dairen).

Bean-cake stacked for export at Antung on the Yalu, S. Manchuria.

A Corean gentleman at Antung.

Chinese Sampan.

At eleven o'clock a stiff westerly breeze sprang up, and soon we were speeding along as before, making splendid time.

It must not be imagined, however, that there were no delays. On the contrary by noon of this the second day rapids were encountered, which occurred more and more frequently as the day wore on.

The first two or three were negotiated by poling with the aid of the stiff breeze, but subsequently it was found necessary for all hands on board except the *lao-dah* (Captain) to get out and pull on the tow-ropes. Enthusiastically we, the uninitiated, went at the first pull. We were glad to stretch our limbs on shore, and the little cook seemed to welcome the chance of showing his prowess, especially as he had bragged considerably about his strength when being interviewed previous to being engaged. Boastfully he had said that what the Master (meaning myself) could do and endure surely he, a "man of bitterness," could do and endure. He forgot, however, that Master had already experienced something of the hardships of up country travel for all that he lived in a comfortable house and wore soft raiment. A rude shock awaited the little cook, for after the first twenty paces, as the boat swung up into the full force of the current, the strain upon the tow ropes became terrific, and the slender shoulder pieces bit deeply into the flesh, where they chafed and galled. In a very little while the cook's strength gave out, and from that time on he was left out of our reckonings when it came to serious work. Reared in the kitchens of the European Concessions in Tientsin his muscles were flabby, and his best efforts of but little avail when such work as now confronted us lay at hand. Nevertheless, the fact that in that first pull he let go caused the *sampan* to lose headway, swerve out into the current, and go drifting down stream in spite of our utmost efforts. By the time we had brought her to a standstill we had lost what little we had gained, and all was to do over again. At it we went, old Liu (hunter and taxidermist) leading, the writer next and the boat-boy last, with the cook playing about somewhere in the middle. And it was pull with a vengeance; but we seemed to make no headway. Copying the men we saw pulling up other boats ahead of us, we got down to crawl, and in this fashion, with toes sunk deep into the shingle, hands reaching out to get a grip upon larger boulders, backs arched and thigh muscles knotted, we slowly gained ground. Sometimes for minutes at a time our utmost endeavours would only hold the boat in place, then inch

by inch we would creep ahead. One soon learnt that the thing to do was to hang on, for in some mysterious way, after the boat had remained utterly immobile for some time, there would come an easing of the strain and we would be able to make a little progress. By the time that the boat was up the first rapid one had learnt a considerable amount about pulling, but far more about one's own limitations.

At the next rapid I was able to engage a couple of men from another boat, and we got up more easily; but at the one after that, though there were plenty of boatmen pulling up their boats, none would be tempted by the offer of money to come and help us. Horse-power—not money—was what was wanted all round, and in the end it was only by the exchange of horse-power that we secured assistance. The crew of a small boat, coming up behind us, offered its services (four men) in exchange for the same from four of us. Actually, with the money to pay for labour, and in a country where labour is usually cheap, one could not get it except one gave one's own in exchange! Surely an ideal state of socialism, and, incidentally, a good example of the principles laid down by Ruskin in his books on political economy, which teach us the relative values and true meanings of money, wealth and labour. But be that as it may, this method of getting up river, however effective, was an abominable nuisance to one, at least, of the party, who would much rather have spent the time probing about in the rocks and up the cliffs in search of the many interesting forms of animal and plant life with which the place abounded. However since needs must when the devil drives, we agreed to the proposition, and for the next two days the two *sampans* kept company in this mutual benefit arrangement.

On the third day we parted company somewhat abruptly. While we were scudding along with an unusually strong wind behind us, our consort had the misfortune to lose her mast overboard. As she was near a village and in no danger, we waved her farewell and were borne away on the wings of the wind. That afternoon we reached a very bad rapid, and had to pull up to the shore for a couple of hours before we were fortunate enough to secure the services of ten coolies (passengers on a large boat going up stream) to help us in our task. It must be remembered, that, once started on a rapid, it was necessary to go through with it, for, if the ropes gave way or the pullers lost their hold, the single man left on board would be unable to handle the boat, and

the chances were it would capsize or smash up on the big rocks that were only too numerous.

The work was hard, but, on the whole, was more than compensated for by the increasing beauty of the scenery. The hills became more rugged and less bare than they were nearer to Antung. In some places they were covered with scrub oak, specially planted for sericulture.

Great beetling cliffs would frown down upon us, or thick woods would come right down to the water's edge and tempt us to land and picnic in the shady depths. We passed long timber rafts coming down stream, and overtook, or were overtaken by, large *sampans*, almost approaching junks in size, full of produce for the up-stream villages.

Sometimes we would be racing along level stretches, at others we would spend hours doing a quarter of a mile or so. At such times and in such places it was only natural that large numbers of craft should get crowded together and much rivalry between their respective crews would take place. Once a large junk, heavily laden with grain, broke its tow-rope, and went swirling down the rapids, smashing into and sinking two of its consorts, ere it wrecked itself upon a projecting rock.

We were fortunate in escaping without any mishap; but the possibility of such a thing happening to our boat kept us continually on the *qui vive*, and prevented the journey becoming dull.

Here one might introduce a word or two upon the different types of native boats in use upon the Yalu.

The Chinese used *sampans* similar to those in use round Tientsin and Taku. As a matter of fact, most of the Chinese boatmen on this river are from this district or from Chefoo in Northern Shantung. Their boats are wide, strongly built with square prows and flat bottoms, decked in fore and aft and also along the sides, with deep holds and raised hatches that can be battened down. They have a tall mast set well forward, and carry an immense square sail ribbed with bamboo and thoroughly efficient in every way. In tacking, lee-boards are used. The Chinese also use a larger type of boat, which might almost be called a junk, but built much on the same lines as the *sampans*. They have two masts and use a projecting triangular sail in addition to the large square sails, which they call *san chiao* (three corners).

Away up in the timber district they build large, wide, flat-bottomed scows, which they bring down stream and sell for barge work at Antung. The Japanese build much lighter boats with

pointed prows and flat bottoms, propelled by rude oars or by poling. A square sail supported upon a small mast with a single cross tree is used when there is a favourable wind—*i.e.*, one directly behind. Tacking is out of the question. The advantage of these boats is that they are lighter and are more easily pulled up rapids than the heavy Chinese *sampans*.

The Coreans use three distinct types of boat, or canoe. One is a very light dug-out made from a short thick pine-trunk. This is shaped something like a *sabot* or wooden shoe, has very thin sides and is propelled by double bladed paddles. It is used to get about the river while fishing, but is unsuitable for a long journey. The second type is a much heavier dug-out made from a long tree trunk and fitted with short oars and a small sail. The third is a large boat made by building up a high gun-wale upon a deep dug-out log of great size. This is shaped more like a Canadian canoe, is fitted with a mast and sail of a shape less useful than that of the Chinese, but very much better than the Japanese type. In this kind of craft the Coreans make long journeys, though it was noticeable that many Coreans had taken to Chinese *sampans*, which, however they handled very badly. The Chinese are undoubtedly the best sailors on the Yalu.

The country which we were passing through on the third day from leaving Antung, as already indicated, had changed considerably. It had become very hilly, in some places almost mountainous. There was considerably more cultivation noticeable upon the Manchurian than upon the Corean side, but the latter looked altogether more inviting, being clothed with a richer vegetation. Here small pine woods were in evidence, while the steep slopes, were covered with dense underbrush, and such trees as walnut, apricot, maple and poplar, with tangles of wild vine between.

A sharp look out was kept for suitable collecting grounds, and mental note was made of several picturesque side valleys.

The Coreans had their huts scattered all along the river front and up the small affluents. We did not come across any large tributary on this bank.

Each evening and morning we saw the men attending to their nets, which were placed under water a few yards from the bank. The poor wretches would wade out as we passed and pathetically point to the spots where their nets were laid and beg us to steer clear. I say 'pathetically' because we had an opportunity of examining one of these nets, when the boat-boy caught one on his punt pole, and it seemed such a miserable affair for a man to spend

the day watching. Later we learned that the day's catch usually consisted of a dozen or so small fish, little larger than sardines, gudgeons and such like, which the fisherman would barter for a few cents to the nearest Chinese, and to obtain which he would sit all day on the bank, wading in each time a boat hove in sight to try and keep it off his net.

The physique of these river Coreans is far from robust. They are of slender build with but little flesh on their bones, and never a sign of fat. They seem unusually susceptible to cold, most of those we saw at this time wearing wadded clothes, while some even had wraps of dog-skin. The neighbouring Chinese were wearing the thinnest of cotton garments. Often the Coreans we saw in the water were shivering so that they could hardly manipulate their nets, and with their sad, pleading faces presented pathetic enough figures. And yet behind them was land only waiting to be cultivated, land which the Chinese across the river looked at with longing eyes.

The better off Coreans also might be seen from the river, but these sat in circles, pipe in hand, nor could one discover that they did ought else the live long day than sit thus and smoke and talk.

One is tempted to ask whether there is not something very sinister behind all this apathy. It is the result of Japanese oppression or the primal cause of Japanese annexation? Is it despair, or is it inherent inertia?

On the seventh day we drew in to the bank at a small town named Ch'a-kou or Wai-ch'a-k'ou, about 200 miles from the mouth of the river. For two days we had been out of all fresh supplies, and the cook was sent ashore to see what the place would yield. Meanwhile Liu and I prosecuted rigorous enquiries as to the nearest country suitable for collecting work. It seemed that to continue up stream would involve us in considerable expense and delay, as at this point the valley narrows down rapidly and the river, winding in and out amongst the steep hills, which are much higher and more precipitous than heretofore, makes sailing impossible. Indeed it is considered unsafe to hoist a sail in these gorges on account of the uncertainty of the wind, which is deflected by cliffs in all directions, or comes sweeping in gusts down side ravines unexpectedly and with fatal force. Added to this, above Ch'a-k'ou the rapids increase in swiftness and number, so that a great many extra hands have to be employed in getting the boats up. One boat which was making the journey, and which we could see from our moorings as it battled with the first rapid had no less than thirty men tugging at the ropes.

It was obvious, then, that to continue up stream was a waste of time, though I must confess to a hankering to explore the upper reaches of the river. I had given up any idea of entering Corea itself owing to the fact that, it being the "close" season for game, the Japanese would not allow me to carry my guns and ammunition into the country, nor would they allow me to collect even small birds there.

There remained the alternative of going up a side stream on the Manchurian side which lay handy and was said to be navigable for some distance. Accordingly I decided upon this alternative, and next day commenced the ascent of the Hun-chiang. By mid-afternoon, after a toilsome journey up numerous rapids, we reached a favourable camping site, and ere long my little village, as I like to call it, consisting of two tents, and usually a crowd of onlookers, stood smiling in the sunset.

It has always been a source of wonder to me how kites gather so rapidly round a carcass, how a tent pitched in the wilderness is so soon filled with flies, apparently just common house-flies, and finally whence comes the crowd of Chinese that invariably assembles the moment a European decides to pitch his camp in what at first sight appears to be a lonely spot in their country. I am beginning to arrive at the conclusion that there is a subtle influence, doubtless some form of telepathy, which acts in all three cases, passing from one intelligence to another calling to the *rendezvous*. Be that as it may, within half an hour of landing at the spot where not a Chinese was in sight, we were the centre of an interested crowd, and during our entire stay in the vicinity we remained *the* feature of the place, to the detriment of the young crops, which needed weeding, and the joy of droves of swine and cattle, whose herders allowed them to wander at will while they stood open mouthed staring at the strange foreigner. More than once an angry farmer appeared upon the scene to drive his idle employees back to the fields, or to complain of the destruction of his crops by pigs or cows.

The country around us had been suffering from drought for the past year or two, and if there is one thing a collector of natural history specimens dislikes more than another it is drought-stricken country, for under no other conditions are things so unfavourable to his purpose. Drought means the dying off of plant life, which in turn means a shortage of food to all the many forms of animal life, so that they in turn die off or migrate.

It was not surprising, then, that my traps for small mammals, which I had set out all over the place, yielded nothing.

The drought, however, was breaking up, and as a result plant life was doing well, with a corresponding increase in insect life, so that birds were abundant. The migrants appeared to be passing this way, and were stopping to feed *en route* for their breeding haunts further north, so that my time was fully occupied in making an interesting collection.

Altogether I collected some twenty-three different species of small migrants. The geese and ducks, of course, had mostly passed north by this time, as also had nearly all the waders and birds-of-passage. The birds I secured were for the most part small perching birds, such as warblers, flycatchers, and thrushes.

This is not the place to go into detailed accounts of all these birds themselves, though one or two deserve special notice. The tricolor flycatcher (*Xanthopygia xanthopygia*, Hay.), for instance, is a most beautiful little fellow. I have already described this species in my account of the wild life of the West Kirin forests. I found him extremely plentiful along the Yalu River. With his beautiful yellow, black, and white plumage, and sweet, cheery little song, he is a bird that can hardly be missed.

Another beautiful songster was his counterpart in blue, the blue and white flycatcher (*Cyanoptilia cyanomeloena* Temm.) In this species the crown of the head, the back of the neck, back, wings, and tail are of a fine azure blue, the throat and breast are black, the lower breast and belly white. Then there was the golden oriole (*Oriolus diffusus*, Sharpe), differing from the European species only in having the black round the eye continued on to the back of the head and neck. He would often appear, a blaze of golden yellow, flashing through the woods, while his rich dulcet song of few notes, but indescribable sweetness, might be heard throughout the day.

Kingfishers, wagtails, redstarts and many other birds of more sombre hue were added to the collection. One large grey bird which turned out to be a Siberian ground thrush (*Cichloselys sibiricus*, Pall.) was brought in by a native, and also a large spotted woodpecker. We took sparingly, however, of all the more beautiful birds, and still more sparingly of the songsters. Not since I used to go birdnesting as a boy in the thickets of the Thames valley have I come across such an abundance of song birds as occurred in this beautiful spot.

There was a little fellow about the size of a robin, and which I afterwards found out to be Swinhoe's bush-warbler (*Horornis*

cantans borealis, Campbell), that would sit at the top of a bush or small tree and fill the air with his song. The liquid notes commencing low down in the scale would make the air vibrate, then, rising and swelling in volume would end in a high pitched trill. At other times as he busied himself in the underbrush looking for food, he would repeat incessantly *dick dock*, *dick dock*, *dick dock* like a musical grandfather's clock.

Reed-warblers swarmed in the willow thicket all along the banks, their somewhat harsh but lusty and vigorous warblings continuing throughout the day and most of the night, while even the little kingfisher's penetrating chirp might be heard at frequent intervals above the incessant din of happy nature.

Pheasants were evidently numerous, to judge from the continuous calls of the cock birds, but, except for a couple of specimens brought in by a native, we saw none. Along the river banks one could secure a few pin-tail snipe (*Gallinago stenura* Kuhl), which were on their belated way to their breeding grounds within the Arctic Circle. Mandarin teal, and Swinhoe's ducks or yellow nibs were fairly plentiful upon the river itself, both species apparently breeding in the vicinity.

My first walk abroad in the environs of my camp led me up a delightful ravine. Here the rocky sides were covered with ferns and lichen, their bases hidden by dense masses of luxuriant foliage, while, sparkling in the sunlight, a brook wound down the boulder-strewn bottom, or plashed gently over the smooth-worn sills and dikes that tried to bar its progress. Deep pools temptingly invited a dip, and on their margins blue-backed kingfishers darted and played in the sunlight.

A wealth of flowering plants gave the ravine the semblance of a scenic garden. Here, where a belt of spongy sward fringed the stream, blue irises and forget-me-nots spangled the soft green; there, under the shelter of a rock, a group of poisonous arums lifted their purple-streaked hoods to the azure sky, forming a snare for the unwary fly who should be tempted thereby into the floral parlour beneath, there to do the work of fertilization, and having accomplished it to die.

A large mass of pale mauve primulas next caught the eye, or else a dozen heads of saxifrage, whose palmate leaves stood forth from the gnarled and crinkled rhizomes clinging ivy-like to the rock surface. Such plants as these any florist might covet.

It did not take long to explore the surrounding country, and, finding it best nearest the river, I kept to the latter. Immediate-

ly behind my camp was a high cliff, where rock-doves and kestrels built their nests in the hollows and on projecting ledges, well out of reach of danger. In the evening several pairs of nightjars always came out and flew about catching insects and making their peculiar knocking noise that has earned them their name.

Now and then a heron flapped lazily by, or a pair of yellow nibs swept up stream on whistling wings, keeping low over the shining surface.

Though I tried fishing it was not much of a success, but the neighbouring Coreans made up for this by bringing me all kinds. The Yalu fish resemble, on the whole, those of North China. There is the wels (*Parasilurus asotus*, L.) a fine specimen of which was brought to me, as well as two or three species of catfish. Several forms of carp or Ciprinids were also secured, but the best fish to be had was a species of bass, *Sineperca scherzeri*, of a fine flavour, and which the Coreans said could be caught with a fly.

Later on I secured a number of gudgeons and what I call the rainbow carp (*Zacco platypus* T. & S.). The latter is a beautiful fish, belonging to the Cyprinids, characterized by having the most delicate shades of pink, green and blue on its sides, the pink and green running into each other in long pointed tongues. The males during the breeding season have peculiar bony processes or tubercles on the head and parts of the body, while the rays of the anal fin are greatly elongated and flattened out.

I found the members of this species very sporting fish. We used to catch them in the shallows with a rod and home made fly. One day I came across a Corean lad standing in a stream that chattered and splashed over the smooth-worn shingle, and he was pulling the little fish out as fast as he could arrange the fly and send it skimming down the foaming surface.

The Manchurian Tree-Toad.

As in the Kirin forests, the frog family was well represented in the district. The interesting little tree frogs (*Hyla arborea japonica*, Gunther, and *H. a. immaculata*, Bœttger), and the fire-bellied toad (*Bombina orientalis*, Boul.) were very plentiful. The two former were very difficult to discover. One, *H. a. japonica*, is a dull green with dark markings, the other a bright, spotless green. With their long fingers and toes, knobbed at the ends, these little frogs are excellent climbers, and when in the act of climbing bear a ludicrous resemblance to an ape or monkey. They are possessed of voices out of all proportion to their size, and when singing, if it can be called such, their throats swell out to almost the size of the whole body. The fire-bellied toads were extremely abundant in dark pools, and on rainy days I found them wandering in the open fields in search of food.

Then, too, the edible, black-spotted frog (*Rana nigromaculata*, Hallowell), the little brown frog (*R. amurensis*, Boul.), and the recently described warted frog (*R. emeljanovi*, Nikolski), as well as the common frog (*R. temporaria*, L.) were very common, not to mention the common toad (*Bufo bufo asiaticus*, Steindachner), huge specimens of which might be seen every evening waddling solemnly over the shingle by the riverside.

Snakes were plentiful, including the poisonous viper (*Agkistrodon blomhoffi brevicaudus*, Stejneger). One particularly spiteful fellow was brought in by a little three-foot urchin on the end of a bit of string. The wicked creature "played 'possum," and all but got my finger as I was untying the string before placing it in my formalin tank, along with the toads, frogs and fishes that I had collected. These vipers are wicked looking things, with their large, short, heart-shaped heads, turned up noses and eyes that have a vertical pupil like a cat's in daylight. They vary in colour from a dull grey-brown to a bright light reddy-brown and are well marked. The bodies are very thick in proportion to the length.

Two magnificent specimens of the harmless black and yellow water-snake (*Elaphe schrenkii*, Strauch) were taken alive. One of these measured 5 ft. 3 inches in length. As they were in good condition I decided to take them back to Tientsin, where I subsequently kept them in good health and condition for over a year. All my efforts to pursuade some one returning to Europe to bring them to the Zoological Gardens failed, and they ultimately died during the winter of 1915. I have always found that snakes make good pets, though it is doubtful if they ever come to know the

person who cares for them. Their docility appears to be due solely to the fact that they become used to being handled, at the same time seeming to like the warmth of the human hand.

Writing of pets brings to mind little 'Chippie,'' who also was brought in, vociferating and furious, at the end of a string. This was a young chipmunk, and since with his pretty ways and confiding attitude he pleaded so eloquently for his life, he, too, was spared and afterwards amply repaid me by the amount of amusement and interest he afforded.

A nest of young redstarts was also brought to me by two tiny children. I did not want the birds, but as my presence undoubtedly was the cause of their being robbed from their parents, and as disappointment was poignant upon the faces of the youngsters when told they were not wanted, I gave them ten cents, and, in a moment of weakness, decided to try and rear the fledgelings. At first things went well, except that my morning's sleep was curtailed a full hour by the noisy clamouring for food; but as the available supply of flies and insects, which had harboured under my tent flap, gave out, one was forced to order a hard-boiled egg and soft boiled beans. Now beans and hard-boiled egg being too strong for baby birds, the little creatures soon began to droop, and by the fifth day all but one had succumbed. The last fell a prey of Chippie, who, in an unguarded moment, raided the nest, and partially devoured the sole remaining innocent. When we found him, he had the babe in his forepaws and was gnawing away at a hind leg.

In a district such as that in which we were camped it is always difficult to decide to which branch of wild life to pay particular attention. One cannot attend to all with hopes of success. Mammals, owing to their absence, might be dismissed, but the birds called for, and received, special attention. They did not occupy one's whole time. There remained plants and insects to choose between, and since my line has always been zoology rather than botany, I decided to collect and study insects. This led to the opening up of a wonderful world of which my tent was the centre, and to describe which would require the pen of a Fabre, and a whole volume to itself. Many chapters might be written about the insect life of a single small bush. There was one such bush with a powerful smell, that stood immediately behind my tent. It took nearly an hour to exhaust it of all its denizens. Most conspicuous were some ladybirds. I found four distinct species and several varieties, upon its leaves.

The great Railway Bridge that spans the Yalu River at Antung.

Chinese Junks speeding up the Yalu River.

Chinese Junks moored at Antung.

There was the common red, spotted with black. Then there were a yellow, spotted with black, and a plain red one. Besides these there were a very large black chap with big scarlet dots, and another very small yellow fellow with black and white dots. Many more brilliantly coloured beetles, Chrysomelids and the like, fed upon certain portions of the plant. In mysterious recesses of the leaves crafty, fat-bodied spiders lay in wait for their prey, and, as unsuspecting flies settled on the leaves, would pounce out upon their victims, exactly like a cat pouncing upon a mouse, and, after a short, sharp scrimmage, carry them into their lair. Another spider always sat poised on the tip of a leaf, ready to launch itself into space at a passing fly, or to drop out of sight amongst the grass stems below at the approach of danger. The green saw-fly was a frequent visitor, as well as many members of the order *Diptera*.

The willows also offered splendid collecting grounds, as also did the foliage in the ravines, along the cliffs and upon the uplands beyond.

Examination under stones and rocks brought to light many species of running spiders and carnivorous beetles. These, like some of the large, carnivorous quadrupeds, literally run down their prey, though observation suggests that they work by sight rather than scent. And yet in the case of the night roaming beetles the sense of smell must be used to a large extent. These beetles were of varied hues, but mostly had a bronzy sheen upon their backs. Some species, known as bombardier beetles, had the power of discharging from their abdomens a noxious gas, well calculated to discourage any bird or other foe from pursuing it further. Some of the beetles were so large as to be able to spring my traps, and one morning a gorgeous fellow, resplendent in his armour of bronzy crimson, lay firmly held in the jaws of a mouse trap. This was a form of *Coptolabrus*.

Every evening from the river rose swarms of may-flies and other winged creatures, the greater part of whose existence is spent in the larval stage under water. As one sat at night on the edge of the boat, one could see by the light of the storm lantern the larger varieties actually appearing like ghosts out of the water. Indeed, it would be difficult to realize the great abundance of insects that swarmed round the lantern on such occasions. Most of these belonged to the *Neuroptera*, such as may-flies, already mentioned, stone-flies and cadis-flies. Most beautiful of these were the gauze-winged may-fly. The nymphs would come to the sur-

face, swim round rapidly, and then come to rest. Suddenly a rent would appear in their backs, and out would come the image, the perfect insect, floating lightly upon the water's surface, wings held erect, the whole insect looking like a tiny fairy yacht. As soon as its delicate wings had hardened, it would make for the light on the boat, and there usually perish. Those that were out of the range of the lantern's attractive glare, would flutter about crazily, circling up and up into the air, and when tired would fall back into the river and die. Then the fish would go 'jumping crazy,' and all around could be heard their splashing as they gorged upon the rich feast spread for them.

The stone-flies were made of more vigorous stuff, and, instead of flying off over the water, would scramble and flutter all over the shore in a desperate hurry to find their mates, ere their short lives came to an end.

The Giant Dragonfly.

Watching these insects in their countless myriads, one could not help marvelling at the prodigality that nature often shows, to say nothing of the seemingly wanton destruction of her creatures. Next morning when one looked round the boat, there was the answer. A pair of wagtails had their nest in a hole in the bank just above where the boat was moored. Though they had hatched out but one fledgeling, those two birds were as busy as

the day was long, and many a may-fly or stone-fly that had survived the night creatures was captured by these devoted parents to satisfy the hungry youngster. To make sure that a remnant of their kind should be left to carry on the race Nature resorted to the simple expedient of greatly multiplying the offsprings of those helpless little insects. She knew that a thousand must die, so she produced a thousand and one, and that odd one survived to produce in due time the next thousand and one. Meanwhile the empty cases of the insects, left behind after the wonderful metamorphosis, might be seen floating past down stream in a thick scum upon the water surface.

Though but few specimens of plants were taken, there was ample opportunity for studying them. Ferns of all kinds were abundant, besides many lilies and other beautiful flowers. All the big timber that once clothed the slopes had long since gone, but in places were small woods of oak, walnut and maple. Cultivation, one was told, had increased enormously of late years, beans, maize, and wheat being the chief products.

After spending a couple of weeks on the Hun-chiang I decided to go back to the main river and try collecting along the Corean side. Camp was struck and the *sampan* got under way, and we sailed down to the mouth of the tributary, and a little way down the main stream ere pulling up at the mouth of a pleasant looking valley, upon a knoll in which is situated a Corean town named Peh-kou-tung. Here there is a Japanese police station, and I lost no time in interviewing the Chief of Police. Thanks to an introductory letter from the Japanese Consul in Tientsin, and after much humming and hawing from an absurd little man in uniform, I was given permission to set small traps, which being my chief desire, I bowed myself out of the official precincts and returned to my boat.

While in the police station a young and decidedly pretty Corean woman with a wilful face and large soft black eyes, appeared before the Chief, and poured out a voluble tale of wrong. She bared her pretty shoulders and showed some ugly bruises. Evidently her father or husband had been administrating correction of a rather severe nature, and she had come to demand reparation or protection. I did not envy the Chief his job of settling a family dispute of this nature, and even old Liu, who had accompanied me, shrugged his shoulders and muttered a Chinese proverb about the impossibility of a law court settling a family quarrel.

I mention this incident to show how firm a hold the Japanese have over the Coreans when it comes to settling family quarrels. I might also mention here that the Coreans have been deprived of all firearms and lethal weapons, no one being allowed to have a knife over a foot long. In many places they have not knives large enough with which even to kill their pigs and so have to take the latter across the river for the Chinese to butcher.

At Peh-kou-tung we did rather better with our traps, but secured nothing new. Here plant life showed an even greater variety than on the Chinese side. There were large stretches of azaleas growing upon masses of fallen and lichen-covered rock at the foot of the cliffs. I also found whole beds of the beautiful slipper orchid (*Cypripedium guttatum*, Swartz.) growing upon rich green moss where there was plenty of moisture. There were, besides, many ferns, club-mosses, and lichens. Insect life showed some difference from that on the Manchurian bank, especially amongst the ground-beetles.

We tried one or two other spots along the Corean bank, but failing to secure anything new, decided at last to head for home. On the way down stream we saw quite a number of egrets in full plumage, and though I would not shoot any myself, I could not resist the temptation of purchasing one which a Chinese had shot. It was the first I had ever handled, and its beauty was a source of wonder.

Arriving at Antung we found the Tencho Maru ready to sail for Tientsin, so booked passages, and at noon, after paying farewell calls on those who had befriended us on our first arrival, dropped down stream to board the steamer, which was lying at Lang-t'ou.

The central span of the great steel bridge swung open promptly on the stroke of half past twelve, or—to use the quaint phraseology of the old boatman—at *pan tien chung* (=half stroke of the clock), the idea being that if the first hour after noon is one o'clock, then the first half-hour must be half o'clock. Sailing as close to the wind as possible we shaved through the ever widening gap, and then swept back and forth across the river, on each long tack gaining upon several other boats, that, with larger sails, at first threatened to leave us behind.

At three o'clock we reached the steamer. There followed the settling of accounts with the boatman. Finally everything being squared to his entire satisfaction (he was an accommodating old fellow, and took half a tin of kerosene oil in exchange for ten

catties of flour borrowed on the journey), he went back to his boat, hoisted the sail and was soon out of sight.

We cast off at 6 o'clock and drifted down stream into deep water, where we anchored for the night. The sun dipped behind the distant hills, the sea mists gathered, and I got a glimpse for a few fleeting moments of the Yalu estuary wrapped in all the pearly mystery of a hot day's after-glow.

Another steamer rode at anchor a little way up stream, a junk lay between it and us, the outlines of both standing out black against the pale, opalescent surface of the river. Lights twinkled forth, and one by one the little fishing boats put out from the shore, and gently sailing before the evening zephyrs, took their toll of the sluggish waters. A bat flitted by in the gathering gloom, and, as I stepped for my cabin after one last look at the Yalu, I could hear the reed warblers' evensong about the roar of the frogs in the reed beds.

Next morning on looking from my porthole I could see nothing but the grey sea, and the throb of the engines said plainly that the great river and the countries it divides, were being left behind as we pounded through the foam towards Tientsin and home.

CHAPTER XIII.

The South Manchurian Coast.

"He who knows most of Nature, he who knows what sweets and virtues are in the ground, the waters, the plants, and the heavens, and how to come at these enchantments,—he is the happy, rich, and royal man."

—*James Freeman Clarke*

CHAPTER XIII.

The South Manchurian Coast.

To those of my readers who annually find pleasure and recreation in a visit to the sea coast, and who, during the long, lazy days of their summer vacation, amuse themselves by prying into the rich store of animal life only waiting to be stirred into view by such as have the intuition to seek and the eyes to see, the present chapter may prove of interest.

It deals with an interim in the work of travel and exploration, upon which I was engaged, and, incidentally, helps to fill in a gap in the subject of the Natural History of the Manchurian Region that would otherwise be left.

Pei-tai Ho, Ch'in-wang Tao, Shan-hai Kuan, Ying-k'ou (Newchwang), Port Arthur and Dalny form a chain of more or less important seaports and summer resorts upon the northern shore of the Pe-chi-li Gulf, and though the first three are not actually within the boundary of Manchuria, yet they are so close to it, and the configuration of the whole coast-line is so uniform, that to describe the fauna and flora of any one of these places is to do so for all. Pei-tai Ho lies within twelve miles of the Manchurian border, Shan-hai Kuan actually on it at the point where the Great Wall meets the sea, while Ch'in-wang Tao lies about midway between these two places. Ying-k'ou lies at the mouth of the Liao River, and Port Arthur and Dalny upon the Liao-tung Peninsula. Not only does the Great Wall meet the sea at Shan-hai Kuan, but the hills, one might almost call them mountains, also come down almost to the foreshore. Indeed, the very name Shan-hai Kuan means 'Mountain and Sea Pass,' indicating the configuration of the country at this point.

Ch'in-wang Tao, which means the 'Island of the Prince Ch'in,' is situated on a headland that at one time must have been almost, if not entirely, surrounded by the sea, with the foothills of the range but a little way inland; while Pei-tai Ho straggles over more or less high ground along the sea-front, with some rather high hills in the immediate vicinity, separated from the back range by a stretch of rolling country.

Ying-k'ou, the only link in the chain which I did not visit, lies upon the flats so characteristic of such muddy rivers as the Liao. At Port Arthur and Dalny the mountains and hills come right down to the sea, surrounding the towns on all sides, the former being partially built upon the steep slopes themselves. The coast-line from here on to the mouth of the Yalu is marked by hills similar in many respects to those across the Gulf on the Shantung Promontory.

The areas specially investigated by me were those in the vicinity of Pei-tai Ho, and to a lesser extent Ch'in-wang Tao and Shan-hai Kuan, while I was able to see enough of the coast of the Liao-tung Peninsula to satisfy myself that I should find nothing there that did not occur further west. Under the circumstances I feel justified in basing my description of the Natural History of the South Manchurian coast upon the more familiar parts from Pei-tai Ho to Shan-hai Kuan.

When spending one's time at a sea-side resort, one is naturally drawn more to the study of marine forms of life than to land or riverine forms, but Pei-tai Ho and the surrounding district offer splendid opportunities for observations on all three. Mammals are few and far between, but by going inland to the hills, specimens of various rodents may be obtained, while a few forms also occur on the rolling low-lands.

Birds, on the other hand, especially during the migratory seasons, are extraordinarily plentiful. Indeed the whole of this coast-line abounds with birds in both spring and autumn, some forms having crossed over from Shantung, others apparently having followed the coast all the way round the Pe-chi-li Gulf. Mr. J. D. de La Touche, when Deputy Commissioner of Customs at Ch'in-wang Tao, carried out ornithological observations at that port for several seasons, and made out a very long list of migrants, which he published from time to time.

Even during the summer months I was able to secure quite a number of different species of birds, mostly aquatic, while a trip which my collector made into the hills of the interior yielded several interesting species of passerines.

Anyone wishing to make a collection of marine fish, such as come in close to the shore, could not choose a better spot than here, for the Chinese are continually fishing along the shore, bringing in numerous finny marvels with each haul.

But the richest finds for the zoologist lie among the numerous rocks at low tide, or on the sandy stretches left by the out-

going waters, where a fauna interesting, as a marine fauna always must be to land dwellers, will reward the diligent searcher with innumerable subjects for his thoughtful study.

Probably the molluscs with their brightly marked and coloured shells will attract his attention before anything else, but there are besides these crustaceans of rare beauty and quaint form, sea urchins, starfish and anemones of wonderful hues, not to mention the more primitive polyps and minute animalcules, whose name is legion.

Turning from the animal to the vegetable kingdom a new surprise and source of pleasure awaits the student. Behold an even greater wealth in plant life! Many rich blooms are there to gladden the eye with their beauty and to soothe the senses with their fragrance. Here is work enough for many a summer's vacation only to record the various species; while to describe them in detail would take a lifetime.

But it would be better, perhaps, to give up generalizing, and to take the country section by section as it presents itself, examining in more detail what is to be found in each, for by such means a better idea of our subject may be obtained.

One of the most interesting spots near Pei-tai Ho is formed by some low-lying flats, part swamp, part sand, and part turf-covered or grassy, that lie to the east of East Cliff, where a small stream or rivulet finds its way to the sea. These flats are partially covered at high tide, but as one travels inland, away from the influence of the sea, a change is noticeable. First willows and other low shrubs appear, then larger trees, while frequent sedge and rush-filled lagoons may be encountered. The tall reed-mace, often popularly, but wrongly, known as the bull-rush, is particularly in evidence; while, in the season, flags or irises may be seen in bloom.

In another direction from the flats, sand is encountered, which increases in depth, or height, till regular sand dunes occur, and when in the middle of these, the wanderer might imagine himself in the Ordos or the Gobi Desert, instead of but a short half mile or so from the blue sea. It is here that the first signs of mammalian and reptilian life will be noticed; for one is almost certain to run across the track of a hare, or the more pronounced spoor of a badger, displayed upon the wind-smoothed surface of the sand. An irregular, scratchy sort of trail may be recognized as that of a toad, who shuffles his feet instead of lifting them, or perhaps it will be what a fellow traveller once described to me as a 'twinkly' track. That would be a mouse or rat, probably a small hamster (*Cricetulus*).

Another form of 'twinkly' track with a continuous line running in it would mark the path of a lizard, and the common lizard of these parts goes by the scientific name of *Eremias argus*. A beautiful little fellow this, with his sandy colour and back and flanks marked with rows of 'eyes,' which give him his name. Finally, in long chains in every direction are the winding, twisting, wriggling tracks of beetles, many kinds of which are born, so to speak, in the sand. Their grubs or larvæ may easily be found by digging a little way to the roots of the coarse grass and other scanty herbage that pricks through the sand.

Returning to the flats by a route a little further inland than the way we came, we find that soon the sand hills give place to sand-flats, and here is a much richer growth of vegetation. The sand has become packed and bound by a tangle of roots and stems. The grass is thick and tall, and small trees and various shrubs and bushes dot the surface. A species of poplar is very common, also elms. Here and there are little swampy pits or depressions, and in these sedge and rush form a shelter for a few small birds, such as sedge warblers and grasshopper warblers. Here, too, may be found a pink-blossomed orchis, not unlike the British marsh orchis, and also another smaller form with a long spike of small pink and white flowers arranged in a spiral up the stalk. There are many other flowers but nothing very striking.

Next we come to a belt of loose sand, and here we find the ground-nut growing, not wild, but cultivated. It is a pretty plant, with its clover-shaped leaves and rich, yellow blossoms, shaped like those of the sweet-pea, but not so large. Already by turning up the sand a pod or two may be found, the earlier blossoms, once fertilized, having turned their lovely heads to the ground, which the developing pods or nuts have pierced, there to lie safely hidden till ripe.

A sudden whirr of tiny wings causes one to look round, and there goes a little button quail (*Turnix blanfordi* Blyth.). This, the smallest of our game birds, which occurs at least as far north as the Amur, is a summer visitor, one of the few species that breed in the vicinity. He is the little three-toed quail, and appears to be one of the most northerly representatives of his genus. One of the remarkable things about him is that he is usually smaller and less handsomely coloured than his mate, a condition, the very reverse of which is the rule amongst the other members of the order to which he belongs.

A Corean Land-owner, Yalu.

A Chinese Custom's Service Sailor, Yalu.

Boat Boy with large Catfish.

By now we have worked back to the lagoons already mentioned, lying amongst tall trees. Through these flows the rivulet that has built the flats, and in them we may find a few snipe, some wild ducks and a moorhen or two. The snipe will almost certainly be found to be one of the pintails, probably *Gallinago stenuria* Kuhl, which may be recognized by its twenty-six tail feathers. I have never been able to make up my mind whether the snipe that are found on these marshes in July are late stragglers from the south that have stopped to breed locally, or very early breeders who have returned from the north. I am inclined to the latter view for there is always a distinct period noticeable from some time in June to the end of the first week in July, when no snipe are to be seen; but the case is not proved by this fact.

The ducks that occur here at this time are the yellow nib, or Swinhoe's duck (*Anas zonorhyncha* Sw.), a large species resembling the American dusky duck, with a yellow-tipped bill and rich orange-red legs. The species breeds all over North China, in just such swamps and lagoons as those under examination.

Non-aquatic birds noticeable in this particular spot are the drongo or king crow (*Buchanga atra* Herm.) and the two common species of swallow (*Hirundo rustica gutturalis* Scopoli, and *H. daurica nipalensis* Hodgson).

Following the stream down its course we come out upon the flat once more, and here we immediately encounter a number of small wading birds: stints, sandpipers and the like, as well as gulls and terns. The sandpipers and their relatives hang about the mud-flats and sandy stretches left by the ebb tide, while the gulls and terns hover over the tiny white breakers and follow them as they gradually creep up to the flats, every now and again diving into the foam to secure some delicate morsel in the way of a small fish or cuttle.

With the help of my native collector I secured from these very flats some eight or ten different species of wader, amongst which were the knot, the eastern knot, the sandpiper, the little stint, the broad-billed stint, the Pacific dunlin, the sanderling and the lesser sand plover. These were all taken in July. I also saw the turnstone in August.

All these birds were in their summer plumage, and the fact that they were nearly always secured in pairs rather suggests that they were breeding in the vicinity. Certainly the lesser sand plovers were, though I was unable to discover any of their nests, eggs or young.

At the mouth of the rivulet large numbers of small molluscs may be found, such as top-shells, whelks, needle-whelks, auger-shells and pyramid-shells, occupying the numerous channels, made by the ebb and flow of the tide; while at the point where flats, headland and sea meet the shingle and sands form one of the best spots to find all sorts of larger sea-shells. Here the beautiful striated helmet shell (*Cassis strigata*, Gm.) may be found at low tide, also the large, almost spherical necklace shell (*Neverita ampla*, Phil.) and the still larger, rough-surfaced rapana (*Rapana bezoar*, Lam.). The Chinese fishermen string the last on long ropes, which they anchor out on the sandy bottom of the bay. Small octopuses enter these empty shells, where they hide, and the fishermen use them for bait for the sea-breams, bass, and other fish, which they catch for the market.

Where the rivulet has deposited thick layers of mud an interesting burrowing crab is very plentiful. Its scientific name is *Macrophthalmus japonicus*, de Haan. Innumerable deep holes about an inch and a half to two inches in diameter may be seen, and, if one approach the place with due caution, the crabs themselves may be seen creeping about in search of food. They are ready to seek shelter at the slightest sign of danger, and, as the intruder approaches, off they go scuttling for their burrows. They enter sideways, leaving one long crooked and serrated claw protruding to the last, and ready for defence. The laterally oblong, almost cylindrical bodies just fit the holes, at the bottoms of which is some muddy water; indeed the hairy body and legs of the crabs always seem to be plastered with mud.

On the wet sands another burrowing crab, *Ocypoda ceratophthalma*, is plentiful, but this one has a rounder, less oblong body, while its eye-stalks though long are not so long as in the inhabitant of the mud-flat. The claws or chelæ in this species are shaped more like those of the common crab; and not like bent surgical scissors or pincers as in the other.

The shallow waters of the coast and those of the rivulet are occupied by many small forms of fish, of which the commonest are a small gob and a larger bull-head or *Cottus*, while many crustaceans, such as swimming crabs, the peculiar, half-prawn half-crayfish forms, *Callianassa* and *Squilla*, true prawns, and shrimps, may be found not far from shore.

In a stream which flows down from the hills at Shan-hai Kuan, a salmonoid fish is found, not unlike the British char in colouring and shape, but which proves to be very distinct when more

closely examined. The upper part of the body is lead-coloured, the lower parts a dull yellowish-orange. An examination of the mouth reveals the fact that the teeth are of an unusual character. The head and nose, too, are more pointed than in the char; while the fleshy posterior dorsal fin is large and rayed. The species is known by the name of *Plecoglossus altivalis*, T. & S., and the stream in which it occurs is one of very few in which it has been found along the North China and South Manchurian coast; though I believe it is well-known in Japan. It would appear to be more of a sea trout, or it might even be given the popular name of sea-char, for it certainly spends part of its time in the sea.

In places where there are rocks, a species of rock-fish (*Sebastodes*), which looks something like a bass, is very common. Its head and gill-plates are well armed with sharp spines, and the angler should be careful how he handles one of these fish, which take bait readily enough. If one looks very carefully at every piece of black weed found floating in the shallow water along the shore line, it will be to make the discovery that some of these pieces are really small fish, a form of bass, apparently, that so exactly resemble pieces of the frond of the brown sea-weed that is so common as to completely deceive any but the most observant. This wonderful little fish is capable of changing its colour in a remarkable way. Normally it is almost black, its pectoral and caudal fins being colourless. If pursued, however, or when on a light background, it becomes a pale sandy colour. If driven onto a variegated background it immediately becomes banded dark brown or black and sandy.

In shallow waters, also, the little puffer, *Tetrodon bimaculata*, or a related species, is common. This fish when pursued tries to escape by rapid swimming, but if pressed too hard it will suddenly bury itself in the sand.

Sea-grass (*Zostera*) is not common along this shore, but if some be found the investigator may confidently look for the little sea-horse (*Hippocampus*), which may be located amongst the waving green strands with its tail closely coiled round a stem or a leaf.

On leaving the flats, and working westward, the first thing we encounter is the headland, where zoological forms are noticeably fewer than hitherto, a defect which is more than made up for by

a great increase in the abundance of plant life. The rocky face of the cliff is covered with a drought-resisting fern, known to science as *Niphobolus lingua* Sprengel. In this plant the frond is lanceolate in shape, usually covered on the under surface with a mass of brown spores. In dry weather the fronds curl up with the under surface exposed, by which means spores are easily scattered far and wide by the breeze. In damp or rainy weather the green upper surface is exposed, and the spores are protected.

On the headland various flowering plants are worth notice, chief amongst them being handsome campanulaceous *Platycodon grandiflorum*, whose wide-mouthed, cup-shaped blossoms of a fine bluish-mauve colour cannot fail to attract one's attention. Then there are the yellow day lilies, not to mention the smaller red tiger-lily, a very different plant from the giant tiger-lily found along the upper reaches of the Sungari. A beautiful pink of a rich crimson colour is everywhere seen. A handsome white clematis, in which a cluster of blossoms grows upon an upright non-trailing stem is also abundant, as well as delicate mauve and yellow iris with unsually long straggling stalk, and short, narrow, deep, falcate leaves. Besides these are vetches, snap-dragon or toadflax, a large orange composite flower, daisies and a host of less conspicuous blooms.

Down on the rocks, where the headland meets the sea, many marine plants occur, such as the common kinds of sea weeds, as well as the many-hued, more delicately shaped forms, crimson, pink, mauve and green.

Here, again, we find an abundant animal life. In deep crannies, well out of reach of the waves, large geckos may be seen. These lizards come out in search of insects, during both the day and night, though they seem to prefer the latter. It is difficult to make a capture, however, for with their sucker-furnished toes, they cling easily to the rock surface, over which they run with sufficient speed to take them into a sheltering crevice before they can be overtaken. Their food appears to consist of various forms of insects, even hard-shelled beetles not being refused. I think it probable that the rock-inhabiting ladybirds form their chief diet.

Lower down, and where the sea sprays the rocks, a large isopod, or sea-salter, closely resembling the wood-louse in appearance, but three or four times the size, darts about over the rocks and into the pools, if necessary. This, too, shelters in crannies, but it does not seem to matter if the latter are above or below the surface of the water.

A Small Corean Dug-out on the Yalu.

Large Corean River-craft.

The Author's *Sampan* at anchor.

Then, of course, the rocks themselves are encrusted with molluscs in the form of little black mussels (*Mytilus*), and even smaller oysters, as well as those peculiar crustaceans, the barnacles; while in the pools, with their bases firmly attached to the rock-bottom, are the beautiful green sea anemones. These with the gorgeous blue and red seastars, the purple, red and green algæ, the prickly sea-urchins, the hermit-crabs in their stolen shells, fitly known to science under the generic name of *Diogenes*, an occasional mauve-spotted octopus, with cold, cruel and watchful eye, transparent prawns and shrimps, blue and brown rock-crabs, form a miniature world, wherein animal and plant life are wonderfully adjusted to the mutual benefit of both.

Inland from the yellow, granitic cliffs, the headland joins some low hills, and here are pines, their sombre coloured foliage, redolent with resinous odours, soughing in the soft sea breezes. Here, too, if we search in the grass of the gentle slopes, we may find a small bush bearing clusters of large and luscious cherries; true cherries, long of stalk and black as a plum when ripe, or scarlet when only partially so.

To the west the pines increase, and other trees mingle with them, till in Lotus Valley we find a veritable wood, where day lilies abound in even greater profusion than on the open hillside, and where we may find many a gay-plumed bird. The most noteworthy, perhaps, are the golden oriole, whose clear, sweet song delights the ear, and the hoopoe, resplendent in russet and pied uniform and golden-buff crown, which he opens and shuts like a fan, as he sits on some naked pine branch or lichen-covered rock. Everywhere are magpies, whose arduous family duties having been faithfully performed, and their yearly progeny safely launched upon the world, now turn to pleasure seeking and a thorough enjoyment of their beautiful surroundings during the remainder of the summer and autumn.

Later these woods will echo to the sound of countless migrants, returning from their breeding haunts in the north, and hurrying on their ways to their winter resorts in the Yang-tzu valley, South China, Formosa or the Philippines. There will be finches, who will not go far, warblers, flycatchers and other soft-billed birds, whose insect diet demands a genial climate the whole year round. Owls and hawks, too, will be there, following in the train of the smaller migrants, living richly upon them.

The marshes will be filled with snipe; the mudflats and beaches will echo to the calls of the waders: long skeins of wild

geese, and less regular flights of duck and teal will pass overhead, following the coast line.

Later still, when the frosts of winter have fairly set in the woods will be almost deserted again, but the sweep of low, rolling country between these hills and the mountains of the hinterland will teem with flocks of buntings, larks, crows and jackdaws, with here and there some lordly bustards. If the winter be a severe one, and the steppes of Mongolia become covered with snow, as happens at rare intervals, large flocks of pin-tailed sandgrouse (*Syrrhaptes paradoxus*, Pallas) are liable to appear, seeking food upon the garnered fields.

Off shore the velvet scoters (*Oidemia stejnegeri*, Ridgway) will be seen, large, black ducks of the seashore, which went north to breed very early in the year.

A very heavy fall of snow and a prolonged spell of bitter cold may bring in their train the snow bunting (*Emberiza nivalis*, L.) and the snow owl (*Nyctea nyctea*, L.), but these birds are of rare occurrence in these parts.

Of mammals the fox, and possibly even the wolf, will appear, the latter coming down from the mountains to hunt upon the plains. The striped hamster (*Cricetulus griseus*, M.-Edw.), the great grey hamster (*Cricetulus triton*, de Winton), and the striped field mouse (*Apodemus agrarius coreæ*, Thos.) will be found in the fields, but the susliks (*Citellus mongolicus*, M.-Edw.), and chipmunks (*Eutamias asiaticus senescens*, Miller) will have retired for the winter. In the mountain valleys the sulphur-bellied rat (*Epimys confucianus*, M.-Edw.), and the bushy-tailed David's squirrel (*Sciurotamias davidianus*, M.-Edw.), whose numbers have been largely augmented by their progeny during the summer, will remain out and about during the winter, to be hunted by the spotted wild cat, the golden eagle, the peregrine falcon, the white-headed buzzard, or the great eagle owl, all of whom occur in these regions.

The jay, too, will probably find his way down from the forests of the Imperial Hunting Grounds, a sanctuary which lies to the north-west, while the azure-winged magpie will certainly be there, as well as his larger, more handsome cousin the blue magpie (*Urocissa*). This latter bird with his mauve, grey and blue plumage, red bill and legs, and long graceful tail is one of the handsomest of the feathered inhabitants of these parts. As far as I can gather, however, this is the north-easterly limit of his range.

So much for Pei-tai Ho, Ch'in-wang Tao and Shan-hai Kuan. Let us glance for a moment at the other places mentioned at the beginning of this chapter.

Ying-k'ou, lying at the mouth of the silt-carrying Liao River, is naturally situated upon a wide, flat plain; but the region reproduces on a large scale the conditions met with at the mouth of the rivulet described above. Enormous numbers of wild fowl congregate at the mouth of the Liao, as well as waders and birds-of-passage of all description.

Port Arthur and Dalny present more the features of the headland and hills, only the vegetation is very much more scanty, and animal life correspondingly less abundant. But the foreshore and sea-washed rocks are the same, and show the same biological forms as those round Pei-tai Ho.

CHAPTER XIV.

Wapiti Hunting in the I-Mien-P'o District of North Kirin.

CHAPTER XIV.

Wapiti Hunting in the I-mien-p'o District of North Kirin.

On the two expeditions into Manchuria already described, my time and energies were devoted almost exclusively to collecting the smaller mammals and birds, as well as other lower forms of animal life.

As, however, no zoological exploration of a country like Manchuria could be considered complete without the securing of data upon, if not actual specimens of, the larger animals and big game, it was decided, after the Yalu trip, to make an autumn excursion into the fine game country of North Kirin, about which I had heard so much from a sporting friend, and which could be reached by railway.

Then, too, I wanted to see what the forest and its denizens would be like in the autumn and early winter. I felt sure that both hunting and trapping would yield better results than had been my portion up to the present.

Thus, armed with a letter of introduction to Mr. A. Wischniakovski, district engineer stationed at I-mien-p'o on the Harbin-Vladivostok section of the Chinese Eastern Railway, I left Tientsin about the middle of September, 1914, and, after two long days of train journey, arrived *via* Mukden and Harbin at my destination at about noon on the third day.

Mr. Wischniakovski and his charming wife accorded me a most hearty welcome, the former immediately taking entire charge of me.

Without wasting any time, a programme was made out for me, I was delivered over to a reliable Cossack named Nicholai Makushkin, and next day was packed off on the east-bound train to a small wayside station called Samafalo, or Sa-ma-hua-lou-er in Chinese.

Needless to say I was delighted at the despatch with which my kindly host—for such had he constituted himself—had acted on my behalf. He knew that I wanted to get after the game as soon as possible, and not a minute was wasted in getting me on to the hunting grounds.

Arrived at Samafalo, I found that four coolies had been detailed to act as carriers in addition to the two I had already engaged at I-mien-p'o, who, with Nicholai, my taxidermist, whom I had brought with me from Tientsin, and myself brought our party up to nine.

The conditions under which I now found myself, were totally different from any I had hitherto experienced. To begin with there were no roads, and only very indistinct deer paths led into the forest. Secondly there were no pack animals to be hired, nor could any more natives be induced to face the hardships of the forest, those, even, that I already had, showing considerable uneasiness. It is doubtful if they would have come at all without peremptory orders from headquarters. Each one of us, myself included, had to carry his share of the baggage, which, of course, meant reducing that baggage, to a minimum. Thus I had only my lightest tent, a light portable stove—a luxury that I soon learnt to do without—the very minimum in bedding, no camp bed, my collecting box, formalin taks, traps, rifle, shotgun, ammunition, and a few provisions consisting of a piece of ham, some smoked salmon, tea, sugar, chocolate and bread. The whole lot did not weigh more than 170 lbs., but even so we had work enough to get it to the desired camping place.

The first thing, on leaving the railway, we came to a small river, so swollen by recent rains that it could not be forded, and there and then we had to construct a raft. Fortunately, at Nicholai's suggestion, who had anticipated just such an emergency, I had brought some ten-inch nails, which now proved very useful, while some discarded railway sleepers saved us the trouble of cutting timber for the raft. When completed, the latter was none too secure, and would carry but half the baggage and two men at a time. Several unsuccessful attempts were made to punt it across the river. The wretched thing would spin round instead of making headway. Twice the clumsy contrivance was caught by the current and carried down towards some ugly looking rapids, but on each occasion a catastrophe was narrowly averted by throwing a long rope from the raft to those on shore. At last by a supreme effort Nicholai and I managed to get the raft across the swift part of the current and landed our cargo safely on the far bank. Then the gallant Cossack returned for the other half of the baggage and the rest of our party, and so, after several rather perilous passages, we were all safely across. We fied the raft

securely to the willows that lined the bank, and set off into the forest.

Each man with a good heavy load on his back, took up his position, Indian file, in a procession headed by Nicholai, who acted as guide. A hundred and seventy pounds divided between nine persons does not seem much, but it must be remembered this only included my own personal outfit. There was besides the taxidermist's bedding, which was all he could carry, Nicholai's food and great coat, which accounted for his load, and the food and heavy great coats of the two coolies from I-mien-p'o. The coolies from Samafalo very foolishly came without either food or overcoats, as they had expected to return to the station that night.

It would be hard to imagine more difficult country to traverse than that through which we were now literally forcing our way. Thick hazel scrub and matted vines barred our way. Great fallen logs of timber lay in every direction, causing frequent detours from our line of march. The ground underfoot was soft and, in places, swampy. Spongy-bottomed pools had to be traversed, and deep streams waded through, or crossed by means of slippery wind falls.

It was late in the day before we had even crossed the river, and now heavy rain clouds gathered, casting an indescribable gloom over the forest. By six o'clock it was pouring with a steady, soaking rain, and to the gloom was added the dismal sound of the patter of water trickling from the drooping branches of great trees upon the withered leaves and foliage of the undergrowth.

We kept on for another mile or so, and then darkness descended upon us. Nicholai announced that we would have to spend the night where we were, as he could no longer find a way through the forest.

There was nothing for it but to pitch the tent, and make ourselves as comfortable as possible. The difficulty of such a task can be imagined. Decades of windfalls and half charred logs, hidden beneath a thick mat and tangle of long grass, nettles and other forest weeds, had to be cleared before we could set up the tent. Even then the floor was little better than a morass. There was not a dry blade of grass to spread under our blankets, nor a dry twig, with which to start a fire.

Fortunately one of the natives had with him a piece of *ming-tzu*, or resinous pine wood, and with infinite care and much

nursing we got some wood to light in my stove. Then larger pieces of wood were dried upon the stove, and so, by degrees, a large bonfire was started, at which the soaking coolies were able to dry their clothes, ere creeping into the tent for the night.

A hasty meal was cooked, the wretched coolies, who had neglected to bring food, delving into my already meagre supplies. It was with gloomy forebodings of the morrow that I finally turned in. I had pictured a far different first night in the woods from this.

Next day we set out before daybreak, the air heavy with mists and chilly as though with frost. By eight o'clock we had emerged upon one of the wide stretches of nigger-head swamp, so typical of the Manchurian forest. The rain had ceased, but as we passed through the underbrush we were deluged with water from the thick foliage, and so were soon wet to the skin. There was a rough path across the swamp, but our feet sank into the black ooze above the ankles, sometimes up to the knees. The coolies were inclined to be mutinous, and I could hardly blame them, for conditions were abominable. Their tendency to throw down their loads and clear off back to the railway, necessitated my taking up a position at the rear of the column, which lost me a good chance, my only chance as it turned out, of bringing down a good wapiti stag.

We had just reached the opposite side of the swamp, and Nicholai was already lost to my view in the fringe of small birch trees that lined it, when his rifle rang out twice. I rushed up to where he stood, unslinging my rifle as I went, and was just in time to see the grey-brown form of a great stag vanish into the dense cover of the heavy timber. The glimpse was too brief for a shot.

Nicholai stood over a fine young buck, and a little way up a slope lay another. My chagrin at losing the big stag was intense, and I anathematized the fate that had sent me to the rear of the line instead of keeping my position next to Nicholai; but, with the two young bucks, I was assured of a couple of good specimens for my collection, so could not complain too much.

An hour was spent in skinning the deer and then we continued into the forest, till we came to a clearing about half a mile further on. It was an ideal spot for camping, and I decided forthwith to pitch the tent here.

The four coolies from Samafalo went back for the skins and carcasses of the deer; while the rest of us cleared a patch of

ground, set up the tent, and generally made things snug for a stay of some duration.

Nicholai and the coolies built fires and cooked a meal. Their kitchen arrangements were simplicity itself. A couple of maple saplings were pared down, leaving the fork where their stems divided. They were then stuck into the ground, one on either side of the fire, with the forked ends pointing upward. A third stripped of all its branches, was placed across this, and on it was suspended a tin can, in such a way that the flames from the fire just reached it. This is a far more effective method than the Gypsy tripod and cauldron. If required a whole row of cans or saucepans can be kept boiling over one fire, while a very small fire is sufficient to cook a meal. In a very few minutes Nicholai's can was boiling, when chunks of venison, a few pepper corns, some mushrooms, fresh gathered from a rotten log near by, a handful of barley, and some salt were thrown in. In half an hour a most delicious stew was ready, which with the black rye bread formed a meal fit for the gods.

Afterwards we cut off sufficient meat from the haunches of the deer to last us as long as it would keep, and then the four coolies and Nicholai carried the remainder back to the railway to be sold at I-mien-p'o.

Nicholai's absence gave me time to take stock of our surroundings before commencing the serious work of wapiti hunting.

The country was virgin forest, pure and simple. Scarce had the woodsman's axe as yet been heard in these silent precincts. There was no cultivation of any kind. Immense trees, walnut, oak and poplars reared their century-old heads on all sides, their golden or brown leaves shimmering in the gentle breezes. Maples and lower shrubs showed a blaze of colour: red, yellow and orange ran riot. There was scarcely a green leaf to be seen: only the sombre pines and spruces frowned blue-black above all. The long pampas grass waved feathery plumes of silver over the golden tangle beneath; while the crimson-leafed vines bent low under their load of purple grapes. Here and there a black and withered stalk marked the spot where some giant thistle or umbell had bloomed earlier in the year, or a tangle of brown strands and clusters of jet-black berries, showed where the bryony had twined.

Birds of all kinds were passing southward. There was much chirping and chatter, but no song. Song is for spring and the mating season. Autumn and the approach of winter demand

activity, prodigious feeding, and a mighty hurrying southward of the feathered denizens of the wilds.

Shouldering my rifle I went off for a stroll. At first I found it extremely difficult to keep my bearings, but on discovering a stream that went twisting and turning through the forest, I felt more confident, for here was something to guide me.

What a wonderful world that was! Every quarter of a mile or so I would come to an open glade, or nigger-head swamp, now presenting a sea of golden grass that reached up to one's waist. These had to be crossed on moss covered windfalls, or by carefully stepping upon the fibrous tussocks, from which the grass grew so luxuriantly. The timber that grew in and round the low-lying swamps was almost exclusively white birch, whose silvery boles, moss-blackened on the north sides, and pale yellow foliage formed a striking contrast to the dark spruces and pines beyond.

Next would come a low rise, where, even in the shade of the mighty pines and oaks, thick hazel scrub barred one's progress, or vines entangled one's feet. Then descending, the stream, by some freakish bend in its course, would confront one again.

More than once as I wandered a hazel hen went drumming away through the woods. Following the direction of a loud musical cry, I came upon a great black woodpecker hacking span-long splinters from a dead tree trunk with his powerful pickaxe bill. His smaller though by no means insignificant cousin, the pied woodpecker, drilled a merry tattoo upon a neighbouring birch. Overhead flock after flock of dusky thrushes passed, always heading toward the south-west, or so it seemed to me. Chichadees and long-tailed tits piped their shrill notes as they passed in lively troops through the shrubs; while from every quarter came the sharp chirp of the ubiquitous nuthatch. Bramblings, buntings, chats, ruby-throated warblers and rose-finches swelled the ever moving throng.

Of mammalian life there were very few signs, though one noted the broad path left by a bear in the underbrush, or marked the dainty spoor of a roedeer. Sometimes I crossed the deep, unmistakable track of a wapiti stag, but that was all.

As dusk came on I returned to camp, and we lighted a fire for the night. I told Liu, the taxidermist, of all the birds I had seen, and suggested that he should spend his time collecting specimens of them. This he promised to do, but I soon found that he was afraid to go into the woods alone, as he had not the

least sense of direction; his bump of location was extremely deficient, and once out of sight of camp he could not find his way back again. On this account the collection of birds suffered considerably; for I had to devote my time to big game, and the wariest of big game at that, which made it impossible for me to shoot specimens of the numerous birds I saw.

There was nothing to prevent my trapping, however, as it was an easy matter, and one involving no noise, to set traps along some of the paths we made to and from camp. But nothing new was caught, only the same old voles, wood and field-mice.

Nicholai returned late in the evening, and before daylight next morning we set off on our first proper wapiti hunt. The Cossack had brought with him a decoy whistle or bugle, which, however, was slightly high-pitched in tone for the Manchurian deer, as it had evidently been made to imitate the smaller European red-deer. The call of a Manchurian wapiti resembles the bellowing of a deep-voiced bull, but begins with more of a roar, and ends with a fine bugle note. It fills the air with sound, and, when heard for the first time, causes that peculiar tingling down the spine that makes one shudder. To remedy the defect in his trumpet, Nicholai bound a large funnel, made from birch bark, to its mouth, which had the effect of deepening the tone and increasing the volume of sound.

Armed with this instrument, and with our rifles ready, we crept stealthily through the forest to the fringe of a wide swamp, where we hid ourselves. Every few minutes Nicholai blew a blast upon his bugle. At last from far away to our left there came an answering call.

We got several answers from the same direction, so determined to make towards it. Every hundred yards or so my companion blew the decoy, and got a deep-voiced response. At last we came to a small clearing, and here we waited, hoping that our quarry would show himself. Presently there was a terrific blast just behind us, followed a little later by the pounding of great hoofs, and the crashing of branches, that told us our quarry had got our scent and was off.

The fact of the matter was that the bugling season was practically over. Most of the wapiti stags had ceased roaring altogether. Only this one lord of the forest had taken up the impudent, taunting challenge of Nicholai's trumpet, but, instead of coming openly and with reckless desire for battle, as he would

have done a week earlier, with a return of his old caution and timidity, he had stealthily circled round us to get our wind.

This fact dawned on me sooner than it did on Nicholai, but I could not make him understand it. To get wapiti now, the only chance of success would have been tracking, or failing that to walk our quarry up from their day time layers. But Nicholai would have none of it, and kept up an incessant bugling, every time we went out. Nearly always we got an answer, and when we did it always seemed to be the same old buck, but though Nicholai tried his best to draw the stag, the latter was much too wary. We never glimpsed him once.

One night he actually came and flung defiance at us in camp, from the black safety of the woods. This drove Nicholai almost crazy, and he was for making a sortie in force and blazing into the forest. Though I refused to be persuaded to do anything so foolish, I let the Cossack go; but he returned an hour later without having fired a shot.

I did not consider Nicholai an extremely good hunter, though he certainly knew the woods, and was extraordinarily keen. He was much too impatient. I should have gone out alone, but for the fact that my experience of the forest was not sufficient to enable me to keep my bearings over long distances, though I was learning fast. Hitherto my hunting had always been in the open mountains and plains of North China, and though I had encountered forests, they had never been anything like these of Manchuria.

Nicholai used to put me through tests by sending me off in one direction, telling me to keep straight, and to walk at an even pace for, say, half a mile, while he would branch off, circle round, and meet me again. As a rule we met all right, but once or twice we missed, and it would be a long time before we found each other; but on the whole my companion expressed satisfaction, and soon would allow me to get out of sight without first giving me instructions.

One morning as we peeped out from the edge of the forest on to a wide swamp, two deer-like forms showed dimly in the half light. Nicholai swore they were wapiti, but I had my doubts. Still, thinking that I might be deceived by the uncertain light, I raised my rifle and fired. Down went one of the creatures, the other bounding away with the unmistakable action of a roedeer. And that was the only deer I got.

It was then that I learnt what a savage the Cossack really was. We went over and gutted that deer, preparatory to carrying it to camp, when Nicholai stooped down, cut out one of the kidneys, and ate it raw.

This deer was a fine animal, much larger than the North China roe, though not so large as the true Siberian form. It formed a welcome addition to my collection.

At last, after several days of fruitless wandering through the forest, returning each night to camp, Nicholai suggested that, as our supplies were nearly finished, he and I should take what was left, and go off into the forest on a two or three day's circuit, carrying only our overcoats and an oil-cloth in addition to the food, while the rest of our party should strike camp and go back to Samafalo.

Thinking that this plan might offer a better chance of success than by being tied down to one camping site I agreed, and off we went.

A long tiring tramp into the densest part of the forest brought us at dusk to a spot where Nicholai declared wapiti were nearly always to be found. It was an ideal spot, heavy timber and open grassy swamps alternating with each other. There were deer tracks everywhere, and I began to feel that now, at least, the opportunity of getting a good head would be presented. We waited in the shelter of the birch trees till it was dark in the hopes of getting a buck as the deer came out to feed, but in vain. Then we set about preparing camp.

Nicholai told me to light a fire while he went off for some fresh water. I found that there was not a dry twig in the vicinity, and was just wondering what to do, when I remembered the birch trees, and before long had a few slivers of the oily bark, with which a fire was soon started.

Then we cut a lot of hazel scrub, which, with the oil-skin sheet spread over it, made an excellent bed. I boiled some water, made tea, and having eaten some bread and cold venison, was ready to curl up and sleep. But Nicholai was far from satisfied with these meagre arrangements. He must have a roaring bonfire. I protested, thinking it would scare away any deer in the vicinity. It was all to no purpose, however, and I learnt for the first time that, in spite of his physique and powers of endurance, the Russian is terribly afraid of cold.

For two hours my companion worked, hauling dead wood and piling it upon the fire. Then he lit a second fire on the other side

of our bed, and piled that high with logs, having done which, he came and lay down. Now I thought we should get some sleep, but I had reckoned without the fires. Before long they were blazing so fiercely, that even Nicholai could not endure the heat, and we both beat a hasty retreat, till the flames died down a bit. At last I dropped off to sleep, only to wake up a little later shivering. Both fires had burnt out. Up jumped Nicholai to replenish them, and so we continued through the night, alternately roasting and freezing.

At four o'clock we packed our things and went in search of wapiti once more, but we had not gone far when I felt a sharp twinge of pain in my ankle. The pain grew rapidly worse as the affected part swelled up. Realizing that I was in for a bad time, I decided to give up the hunt and return to the railway. Of my sufferings on that ten mile tramp through the forest I will say no more than that it was an experience I have no desire to repeat. To reach my destination I had to cut a couple of staves and use them as crutches, while I limped on my sound leg. Part of the time I could not even do that, and actually had to crawl. Nicholai carried my pack, but I was continually hampered with my rifle. The roughness of the country, with its innumerable wind-falls and tussocky swamps, intersected with deep streams, which had to be crossed on slippery logs, the denseness of the underbrush, and finally the river, which again proved unfordable, and so necessitated a long detour to the spot where we had left the raft, was nothing short of a nightmare; but at last it was over, and I hobbled into the station at Samafalo on the verge of collapse.

Here I got at my little store of medicines, I knew well enough that I was suffering from a sharp attack of acute rheumatism, induced, doubtless, by the cold and excessive dampness of the forest. I doctored myself with salycilate of soda, vowing that never again would I let myself be caught out in the wilds without the friendly little bottle of tabloids. What would have been my plight had I been twenty miles from the railway—and alone?

By ten o'clock that night I was back in I-mien-p'o having boarded a freight train, whose bumping caused me excruciating agony. I managed to get a room in a small local hotel, and the next week was spent in bed, till the swelling went down, and I was able to walk again.

Rocks and Reflections on the Yalu.

Low hills of the Yalu Valley.

CHAPTER XV.

The Woods in Autumn

I love to wander through the woodlands hoary,
In the soft light of an autumnal day,
When summer gathers up her robes of glory,
And like a dream of beauty glides away.

—*Sarah Whitman.*

CHAPTER XV.

The Woods in Autumn.

When first I looked out of the window of my *coupé* in the well appointed first class car of the Harbin-Vladivostok *poste* train, after a grateful sleep, snatched in the early morning hours, it was to view a world of round-topped hills and winding valleys, clothed in a luxuriant vegetation, on which that master painter, autumn frost, had barely begun his work.

These were only the low foothills, as it were, of the forest clad back ranges, that rise gently from the West Manchurian plains. Here there was no tall timber, but a wealth of sapling birch and hazel, dense thickets of rasp and bramble, meadows of rich *wula* and pampas grass, and copses of maple, chestnut, half-grown oak, and the more humble hawthorn. On each the Painter had but hinted his colour scheme, tinging each leaf-tip with the shade that later would suffuse the whole, and form its part in the grand orgies of colour as the masterpiece reached completion.

As the train climbed slowly upward, the copses turned into woods, and the thickets gave place to copses; meadows grew smaller and less frequent. Only along the railway line the brambles and thorn-scrub held their own, at the same time developing richer hues on leaf and stalk, with the increasing altitude.

At I-mien-p'o, the hills were much higher, and though, in the immediate vicinity of the town, there were extensive stretches of cultivation, the timber had so increased in size and extent that it might fairly be said, that the forest had commenced.

To show me the beauties of the place Mr. Wischniakowski took me, that first afternoon, on his motor-trolley for a short spin up the line. We wound along a narrow valley, skirting low ridges, and passing under moss-covered cliffs. A beautiful stream, whose clear, sparkling waters bubbled and chattered over the shingly beds, or down the gently sloping rock-bottom, was crossed by a high tressle bridge where Cossacks stood in high watch-towers, keeping a look out for the ever present *hunghutzu*

bands. It was explained to me that the latter were very bad, and had been stirred into activity against the Russian Railway Guards by the recent capture of some of their number.

Here, where a side stream entered the main valley, one saw vistas of the most enchanting sylvan scenery. The high pine-crested hills, sloping rapidly down to the silvery streak that marked the stream, the delicately coloured willows overhanging the swirling waters, the intervening of birch, hazel and maple, yellow, russet, and red, and the mighty oaks o'ertopping all, could now be seen only in outline, for the evening mists were gathering, and dusk was blotting out the detail. Still, the predominating note in the colour scheme was green: summer was dying hard.

Then came the ten days in camp near Samafalo, during which the autumn tints had completely enveloped the herbage, but still had not reached their highest pitch, for many a leaf was yellow that later would be orange or red.

The days that I spent confined to my room in the hotel, wrought a wonderful change in the woodland scenery, for, when I was able to get about again, it was to look upon a world of blazing colour, such as I never dreamed possible. Once in my life I passed through the Canadian Rockies during the Autumn: later in the same year I spent a few days of September and October in Japan, and in both places, I well remember being amazed at the wonderful autumn colours; but neither could begin to compare with the Manchurian forest, as I saw it, when, with Nicholai and another Russian named Filatoff, I entered its mysterious depths for another try at the wapiti. This time we went eastward by train for a distance of forty versts (about 20 miles) to a guard-house beyond a large village named Yablonai.

We travelled light, taking no more with us than we could comfortably carry on our backs; that is to say, the two Russians carried about thirty pounds each, while I was content with twenty.

We spent the first night at the guard-house, setting off next morning across a wide, swampy valley towards some high, forest-covered hills.

The rich meadow lands, that interspersed the swamps, supported a wonderful variety of plant life, but I had little time to give heed to this. Besides, practically all the plants had long since ceased to bloom. What was more noticeable was the variety and intensity of crimsons and yellows that the low shrubs displayed. There was a sort of field-maple, with long, pointed, and

deeply serrate leaves, that showed a gamut of pinks, reds, and crimsons, at once the joy, and despair of any who might behold and try to depict either with pen or brush.

> But who can paint
> Like Nature? Can imagination boast,
> Amid its gay creation, hues like hers?

The plumed pampas grass grew so thickly in the swamps that from across the valley the landscape seemed splashed across with broad belts of silver, giving the appearance of water. The meadows were deep yellow, brown, madder, or maroon, according to the tone that the grass and weeds had assumed. Beyond all were first the deep stream banks, where the trees that bordered the water had still retained their summer green, and then the hills, where brick-red oak, golden birch, firry maple, and sombre Prussian blue pine first clashed their warring colours, and then, as they receded into the distance, blended them to form the most exquisite mauve, while far away, where the back hills ranged, ridge upon ridge of the purest blue merged slowly into the sky itself.

We crossed the swamps with some difficulty, and then came upon the wide deep stream, that nearer I-mien-p'o had formed an effective obstacle to our progress. Here we could have waded across, but it meant either stripping or getting our clothes wet up to our waists, neither of which alternatives were very attractive. We hit on a better plan. An enormous poplar slanted over the water at a bend in the stream. A few minutes work with the axe sent the great tree crashing down, its topmost branches just reaching a bar of shingle that ran out from the opposite bank, and we were able to cross dry shod.

Then we plunged into the forest, and for four days were lost to the outside world.

Those four days were a wonderful experience for me. We wandered up a side valley, where, but for the deer paths, we should have had difficulty in making our way through the undergrowth at all. We soon got into the hills, and crossed ridge after ridge. Here the brush was not so thick, as the tall timber obscured the light required for the development of the lower growth.

One of the most conspicuous plants of the latter was a leguminous shrub, *Lespedeza bicolor*, whose tri-lobed leaves were all of a golden yellow. As it often extended over a whole hillside, the effect was magnificent, especially when the ravine bottom was filled with crimson leafed wild vine, and maples blazed with all their rich colours between the pines and oaks.

There were at least three species of maple common in these woods. The species that grew on the meadows was wanting, but its place, as a shrub, was taken by an orange leafed variety. Two very tall species displayed, one, with the characteristic ivy-shaped leaf, a fine vermilion, the other, with a deeply cleft leaf, a rich crimson-lake. Then there was a tall, prickly shrub, *Eleutherococcus senticasus*, with heavy clusters of black berries, whose large palmate leaves were of a pale chrome yellow, while on the very ground itself the smallest herbs and trailing plants vied with the maples and vines.

Besides these plants which pleased the aesthetic senses, there were more useful ones, such as those that carried rich stores of berries, some edible, and delicious to taste, but mostly sharp or acrid, fit only for the fowls of the air: some were actually poisonous.

The local species of guelder rose (*Viburnum*) with its leaf like that of the maple, both in shape and rich colouring, bore large bunches of brilliant scarlet berries, that were very juicey, slightly tart, and a little bitter. Fine thirst quenchers these, but their dire effect upon one's internal anatomy prevented a too frequent indulgence.

Cranberries also grew in thick clusters, orange or vermilion according to their degree of ripeness; while several kinds of bush and bird-cherries occurred. One with a round, flat stone was very palatable. A black drupe, not unlike the buck-thorn (*Rhamnus*), growing on a tall shrub, one might almost call it a small tree, was occasionally met with. There was a wild pear, with small, acid, yet palatable, fruit growing in clusters on long stalks. Mishka, as the Russians call the bear, was very fond of these, and it was seldom we came across a tree that had not had some of its branches stripped by him.

For the first time I came across the fruit of the Herb Paris in the form of a single large purple berry, with a fine bluish bloom, growing on the end of its tall stalk, while the whorl of eight leaves, the petals, and sepals hung limp and withered below.

The crinkled seed pods of the peony were now agape, displaying rows of black berries interspersed with irregular masses of a brilliant scarlet fleshy substance. The effect was that of a scarlet, three-rayed star, set with shining black jewels.

In short, there was not a plant, excepting the evergreens, but with leaf or fruit displayed some warm tone to help in the gorgeous colour scheme. The master painter had completed his picture,

The Lao Ta of the Author's boat on the Yalu River.

A large Chinese River-boat, Yalu.

and for the time being I could do little but admire its beauty. I know I hunted badly, for my eyes were everywhere but on the trail, and my ears listening for any sound but the stealthy tread, and slight rustle of disturbed leaf or twig ahead, that should warn of game afoot. I turned aside a thousand times to look more closely at some trivial thing, when I should have been pressing on. But what did it matter? Was I not amply repaid by the glories and wonders that lay all round?

We wandered far and wide, but there was method in our wanderings, for Nicholai visited the various spots where the wapiti might be lying up. Judging from the numerous tracks there must have been plenty of these animals about, but we had a fruitless day. Fruitless, that is to say, from the hunter's point of view, for we did not sight or shoot any deer; but from what I saw of track and spoor, I learned much that was new to me of the habits of the great deer we were seeking. Here in the long grass at the head of the ravine were three oval patches where a great stag and two attendant young bucks had bedded down the day before. Here, where the tallest timber stood, was his rubbing tree, a straight and stout sapling pine, off a section of which the bark had been stripped at a height of about three feet from the ground. Bits of velvet from those stately antlers that I wanted so badly still clung to the blood stained inner wood, showing how they had been cleaned in preparation for battle. Here, again, was where many deer came to drink at a clear spring. Had there been a moon I might have selected a spot near by, and waited at night to get a shot at my quarry.

At last we came to a clearing, where two stags had done battle, and a battle royal it must have been. Over an acre or more the ground was literally torn up by their sharp hoofs. Great clods had been scattered far and wide, and deep furrows scored the earth. It was plain how first one and then the other of the antagonists had gained the advantage, for the long furrows zigzagged backwards and forwards.

We decided forthwith that the deer could not be far away, and so hung about in the vicinity for two days in the hopes of getting a sight of one of the rivals.

At noon of the first day we halted in a small, well hidden ravine, and prepared a meal. Soup is the favourite dish with the Russians, and so portions of what little meat we had were cut up and put into the tin can which served us for a saucepan. A tablespoonful of bovril, some potatoes, a stalk of Chinese onion, and a

gathering of juicy mushrooms were added, and in a few minutes we had an excellent soup. This, with a little smoked salmon, some bear-meat sausage, and rye bread, followed by a dish of tea, made an excellent lunch. Nicholai groaned over the absence of his favourite beverage, *vodka*, which, owing to the Russian prohibition law that was now in force, was very difficult to procure.

Such was our simple fare. In the absence of fresh meat, which we had hoped to secure, we made large inroads upon our supplies of sausage and fish, and it was our failure in securing game that ultimately drove us out of the forest and back to headquarters at I-mien-p'o.

Meanwhile we did the best we could. We caught trout and other fish whenever we came to a suitable stream, which helped out considerably, but three hungry men can put away a lot of food in twenty-four hours. But I am anticipating. . . .

In the afternoon we climbed up to the highest ridges, and here we came across the grey squirrel for the first time. I found these little fellows wonderfully tame. They would jump from our path on to the nearest tree, and hang there by the rough bark, staring down at us as we passed. Several times I stopped and sketched them as they were. This used to prove somewhat trying to their nerves, and more than one, after standing it for a few minutes, would drop the nut he held in his mouth and go off on a wild scramble through the branches, jumping from tree to tree in a most reckless way.

I noticed also, on these higher slopes, that the dusky thrushes, which elsewhere had been seen passing southward in large flocks, were feeding. It was impossible to find out what they were eating, as I had only my rifle with me, but I half suspect it was the seeds of the *Lespedeza bicolor*, since they usually seemed to be searching about on the ground below these bushes.

Here, again, the great black woodpecker was met with, as well as the pied woodpecker and the greater and lesser spotted woodpeckers. The handsome jay was very common, while the little nuthatch (*Sitta amurensis*, Sw.) was everywhere. This last is the most delightful little fellow of the whole avi-fauna of the woods. His loud chirp is heard on all sides, in all weathers and at all times of the day, as he searches incessantly for food. His strong little bill beats out a tattoo almost as loud as that of the woodpecker. He darts through the underbrush, examining every windfall and tree stump. He shoots, a streak of silver, blue-grey and brown, like an arrow up to the gnarled and knotted branches

of the fire-blackened dead-wood. He scrambles about like a creeper, along the under side of a branch, down the trunk itself, into every hollow and out again. He is usually accompanied by his mate, from which he is only distinguishable by his slightly brighter uniform. His food is nuts, seeds, ants, grubs and other insects.

Hazel-hens, or grouse, which the Russians call *riabchick*, were common in these woods, but as I had more sport with them elsewhere at a later date, there is no need to describe them or their ways here.

Several times I have mentioned mushrooms as forming part of our diet. Of all the year autumn is the time for mushrooms and their kind in the Manchurian forest. In certain places mushroom gathering forms almost an industry, the natives going out into the forests with large baskets, which they bring back several times a day filled to the brim. The mushrooms are then dried, either in the sun or on flat, slow-burning mud furnaces. When thoroughly dry they are ready for the market, and are transported to all parts of China.

These mushrooms are not like the common species, and, perhaps, ought to be called edible fungi rather than mushrooms. They mostly grow fan-shaped from rotting logs. There is a fine white species, or variety, that grows to an enormous size, sometimes eight or ten inches in diameter. Another similarly shaped but smaller form is yellow, while a third is pinkish. Then there is a much smaller one that grows up in a cluster. In this the head is rounded, and the stalk long, both being more or less scaley. The ape-head fungus, or to give it its scientific name *Hydnum erinaceus*, Bull., was very plentiful. This species the Chinese gather and pickle. When fresh it is whitish in colour and appears to be formed of a lot of thick, juicy, vermiform filaments. When dried the filaments shrivel up and look like hairs, the whole plant assuming a rough resemblance to a monkey's head, hence the Chinese name *Hou-tou Mo-ku*.

Towards evening of the first day, when we had separated to work through a wide ravine, Nicholai came upon a fine yellow-throated martin (*Martes flavigula borealis*, Radde.) and shot it. The report of his rifle disturbed a bear, which went tearing off through the underbrush, and that was the nearest we came to getting anything big.

We returned at night to the ravine where we had lunched, and prepared camp. We soon had a good fire going, and a mush-

room stew boiling. As we sat round the fire the wapiti, strange to say, began roaring all round us. Nicholai got out his decoy, which he had not used lately, and we crept away from the fire into the next ravine. Here he blew a long call, ending artistically in the high clarion notes. Almost at once answers came from two deep-voiced bucks, but though they came and stood—as we learned next day—within fifty yards of us, we could not get a glimpse of them. It was too dark. They moved with perfect silence through the woods, which is a wonderful thing considering their size and the denseness of the underbrush. After an hour of this, we gave it up, and returned to camp, where we had supper. After supper we sat for a while round the fire, smoking and telling yarns, as best we could.

There is nothing in the wide world so inducive of a spirit of reminiscence as a camp fire. Nothing breaks down the reserve of silent men so readily. Surly tempers thaw under its genial warmth, and rugged natures are softened. Many a life-long friendship has commenced by the flickering light of a camp fire, and as I sat there beside those two rough men of the woods, though I could not understand their talk, nor they mine, except we conversed in a third language, Chinese, and then only imperfectly, yet a sort of sympathy passed from one to the other, and I felt that, crude though they were, uneducated and half savage though they might be, they understood me, and I them in a way that could never have been possible without the friendly influence of the camp fire, and the wild, black woods all round. They were not there for pay, they had even brought their own food, which when occasion arose they shared with me. I, too, might have earned an easier, more comfortable living had not the "wanderlust" gripped me. No, we were all three there from choice, and not of necessity; because we loved it; because, as Nicholai expressed it in his halting Chinese, "*Ta wei hao! Shu lin tzu hao! Wai t'ou ch'eh fan, shui chao hao!*" or "To hunt is good! The forest is good! To eat and sleep in the open are good!"

The dancing flames cast their fitful glare on the stately tree trunks, that stood out startlingly clear from the blackness beyond. Overhead, the crimson maple leaves, reminiscent of that fine Japanese Satsuma ware, fluttered in the rushing current of warm air, which bore countless sparks skyward to vie with the silent stars. The deer had ceased roaring, and only the crackle of "the birch log burning" disturbed the silence of the woods. I crept into my sleeping bag, the Russians, after building up a roaring

View on the Yalu.

fire, rolled themselves up in their great coats, and soon we were oblivious to all our surroundings, as we peacefully slept the sleep of tired men.

Next morning we awoke to the sharp calls of the woodpeckers and the twittering of small birds, passing through the brush on their long journey southward.

A hurried wash in an adjacent spring, a rapidly prepared cup of tea, and, swallowing our allowance of rye-bread and bear-meat sausage, we set off on another day's hunt. There was nothing much to distinguish it from the day before, or the two days following. We could not come up with the quarry we were after. Once or twice I might have shot a roedeer, but I would not fire my rifle for fear of frightening away bigger game, which we knew to be in the vicinity if only we could put it up.

So the days slipped by, and at last we had to head for the railway for want of food. Indeed, but for a few minnows caught in a small stream and boiled in water with some mushrooms, a sickly dish without salt or bread, we had nothing to eat the last day till we made the guard-house at six o'clock in the evening. However, though disappointed as far as securing a wapiti was concerned, the days and nights of that hunt were amongst the best I have ever spent in the wilds.

From the guard-house we walked to Yablonai, where we found everybody in a state of wild excitement. A message had just been received from the terminus of a small side railway, that ran into the forest to a timber yard, to the effect that the master of the yard had been brutally murdered by a band of *hunghutzu*, known to be operating in the district. Bit by bit I got the story, and as it serves to show what these bandits are like, and why they are so greatly feared by the Russians, I give it here.

It seems that the Russian and his wife, the only Europeans in this lonely outpost, were sitting that evening at their supper, when a noise of altercation was heard coming from the place where the Chinese employees of the Timber company had their quarters. Annoyed by this, the yard-master went to the door and shouted for quiet. Scarcely had he spoken when the crackle of rifle fire broke out, and the poor man fell, shot through the heart, while bullets whistled through the hut. Then appeared a number of ruffians of the real *hunghutzu* type. They ransacked the place for money and valuables, threatening the dead man's wife with unspeakable horrors if she did not reveal the hiding place of their paltry savings, then, removing the boots from the dead

body, they returned to the Chinese quarters to continue the despoiling of the natives upon which task they had been employed, when the yard-master's calls for quiet had disturbed them.

Six robbers participated in this wanton crime, and I am glad to say that within the next few days they had been followed up, surrounded and killed to a man by a possé of twenty Cossacks.

It is interesting to note that within the last year (1920) robber bands have become very numerous and aggressive in these very forests, and the very wood-yards at which the above recounted tragedy took place has recently been burned by them.

CHAPTER XVI.

Bear Hunting.

Make ye no truce with Adam Zad—the Bear that walks like a man!

—*Kipling.*

CHAPTER XVI.

Bear Hunting.

More than one of our ablest writers, whose chosen task it has been to portray for us the lives of wild animals, have pictured the bear as a big, strong, lazy, good-natured sort of fellow, anxious only to be left alone, interfering with nobody so long as nobody interferes with him, and strictly mindful of his own business.

The question of a bear's temperament is an open one, however. The author of the Jungle Books, whose benign old Baloo is one of his most delightful animal characters, has given the other side of the bear's character in his poem "The Truce of the Bear," and whatever may be the disposition of Mowgli's teacher, one can not help feeling that the poet has come nearer the mark in Adam Zad.

Though, as a cub, ready enough to play, and, even when full grown, often displaying on the surface a semblance of easy good nature, the bear is notoriously short of temper and treacherous. And none know this better than the professional hunter, who so often stakes his life against that of his quarry in his struggle for existence. However much he may enjoy the sport of bear baiting, he takes no chances. Watch my trusted friend, Nicholai, making his preparations for our bear hunt! Three rifles are not enough: he must have a fourth, and to this end he scours the town till he finds August, surnamed Naribia (the fish), a strapping young blonde from Finland, who jumps at the chance of excitement. Nicholai, when discussing the question with me shakes his head doubtfully saying "August is young, he may get hurt."

Not only are several hunters necessary, but a pack of dogs must be raised, somehow, somewhere. Nicholai has two, but he wants more. Naribia brings along a fine looking pup, which is allowed to join in with misgivings. Nicholai has his eye on a scarred old warrior named Rasboi, and finally persuades the owner to let him come. Then the Cossack's brow clears, and joyfully he sets about final preparations.

Now see how carefully he overhauls his rifle. He advises me to do the same, which advice I take. He suggests that I bring my taxidermist along armed with my shot gun and a supply of buck shot cartridges. I agree and give instructions accordingly.

From what I have read, Anglo-Indian sportsmen rather despise the bear as an animal of the chase; but then they have to deal with old Baloo, the sloth-bear, taking him generally from some safe perch, while on a beat for tiger, or they hunt the red bear, or the little blue bear of the Himalayas, which, from all accounts, are usually found in the open and may be bowled over at a comparatively safe range. Sometimes they get a chance at the Himalayan black bear, which, though a more formidable animal than those already mentioned, cannot compare with their Manchurian cousin, one of whose distinguishing features is a heavier jaw and teeth development.

Sportsmen may think, therefore, that Nicholai was making a ridiculous fuss about our bear hunt. I certainly did. Yet Nicholai had killed many bears in his time, and alone had even followed for days at a time the track of that most dreaded of beasts the great woolly-haired tiger of Manchuria, Mongolia and Eastern Siberia.

Why then all these preparations? For the simple reason that we were going to hunt, in the densest of forests, through the thickest of underbrush, one of the most savage and hardest-to-kill of beasts. If we came across him at all, it would be at uncomfortably close quarters. None of us was armed with a rifle of heavier calibre than 7 millimetres.

The dogs, it is true, were for the purpose, not only of tracking down and bringing to bay our quarry, but to tree the smaller bears; but I was warned that there were some very big and fierce fellows that could not be treed, and that, if found, always put up a fight.

So, acting on the old adage: 'Discretion is the better part of valour,' I decided to do what Nicholai told me, which greatly eased that worthy sportsman's mind.

Our entire outfit was gathered together at the hotel where I stayed, and we made it into five rather heavy loads. Since the taxidermist was coming with us, I decided to take a few traps and materials for putting up birds' and small mammals' skins. At last we were ready to start on our twenty mile tramp to some high peaks away to the north of I-mien-p'o. Nicholai had decided on the forests in this direction, not only because there were

plenty of bears there, but because there were also a few gorals, wild goats, of which I was anxious to get a specimen, inhabiting the peaks themselves.

After crossing the river by means of a leaky old ferry, and having had a wordy discussion with a native on the bank, who tried to exact toll from us, though everybody knew that the upkeep of the ferry was paid for by the town authorities, who made no charge, we set off up a wide valley, skirting some low hills to our right.

It commenced to rain before we had gone a mile, and kept on all day. This made the going very hard, as greasy, black mud set us slipping at every step. When we reached a farmstead, we engaged a couple of Chinese coolies, and so, by reducing our loads, were able to make better progress.

Ere long we entered the forest, through which a narrow path led us for the rest of the day. The steady, pattering rain soon soaked us through, but there was no place where we might seek shelter, so we trudged wearily on.

It is not worth while going into details of that miserable tramp. It rained the whole day. At about three in the afternoon we turned up a side valley, still surrounded by forest. A short halt was made for food, and then on we went, darkness overtaking us long before we reached our destination. At last we began to ascend, finally crossing a high ridge, from the top of which we glimpsed a light shining dimly from a small window in a log hut below us. In another minute we were hammering at the door of the hut, which was opened by a little Taoist priest. The welcome he gave the Russians showed that he had put them up before.

This, then, was our destination, for I was told that the main peak was close at hand. We stripped off our wet things, and after a hearty meal retired for the night. There was a single mud *kang*, heated by flues from the cooking stove, and on to this the five of us bundled, nearly ousting from their customary places the priest, who with his disciple and a farm labourer had already settled in for the night. In short, eight of us crowded on to a ten foot *kang*, and, wonderful to relate, slept soundly the night through.

Next morning when I emerged from the hut, I was confronted with a view of a gigantic cone of rock, towering several hundred feet up into the air from a sea of pines and oak, its rugged, crenulated crest sharply defined against the glowing pink

of the eastern sky. Southward I looked down a ravine toward a wide valley, where the forest lay in all its glorious autumn colours, and far away in the distance, behind a low ridge hung the blue smoke that marked the town of I-mien-p'o. Westward and northward a short, steep ascent of ploughed field ended in a pine fringed crest, that cut off all further view.

Already the noisy, vociferous jays were at work hunting through the heaps of maize stalks, that lay at the back of the hut, for stray grains of golden corn, and the nuthatches and chicadees darted about, now hanging from a sun flower head, and now scrambling over the blasted stubs of long demolished trees.

I was too stiff from the previous day's hard tramping to do anything very strenuous, so spent the morning setting traps round the clearing, and hunting for hazel hens in the adjacent woods with Naribia. In the afternoon Nicholai suggested a tramp through the woods to locate, if possible, some bear's feeding ground.

The whole party set off in a south-easterly direction. The dogs were wild with excitement, all except old Rasboi, who alone seemed to realize the serious nature of the business afoot. He kept a few yards ahead of us as we trailed through the forest. There was a brindled bitch, named Damitchka, whom Nicholai said was the cleverest of the pack, and she led the two remaining dogs, a black, bob-tailed fellow, named Mishka, and the great yellow pup, called Djook, on many a wild stampede after a squirrel or even a purely imaginary quarry. It was all Nicholai could do by kicks and blows to keep those three in hand, but at last they were beaten into submission, and kept to the trail behind old Rasboi.

Presently, in order to scour the country more thoroughly, Nicholai divided the party up, sending August, Filatoff and Liu, the taxidermist, off in one direction, and taking me in another. Of the dogs old Rasboi, the faithful and silent, decided to accompany us, Damitchka leading the others off after young Naribia, whose handsome, smiling face and curly, golden hair must have appealed to her feminine fancy far more than Nicholai's saturnine countenance. Of course I was a stranger amongst them, and did not count.

For an hour we pushed our way through the prickly brush, crossing two ridges and a deep, gloomy valley. On the crest of the third ridge we found the deep imprint of the body of an enormous bear. The brute had evidently been lying there very

recently. Possibly he had only moved off as he heard us coming through the woods. Now was the time for Damitchka, the brindled bitch. She could have picked up the scent and followed the trail of the bear for us.

We decided to sit down and wait till the others turned up, as they ought to do at any moment.

Meanwhile Rasboi was busy sniffing about in the brush some fifty yards down the slope. Suddenly, there was a series of angry, coughing grunts, and the sound of scuffling. We could see nothing, owing to the dense brush, but we rushed down the slope towards the sounds. It was impossible to locate the exact spot, and soon all sound died away. Ten minutes later old Rasboi turned up panting from his exertions, and flung himself down at our feet. Undoubtedly he had run across something, which from the noise it had made was either a wild pig or a bear. I continued the search for a while and presently came across the track of a very large bear, but owing to the nature of the ground it was impossible to follow the trail, besides which Nicholai said it was no use unless we had Damitchka with us.

This was disappointing for the moment, yet the fact that we had run across a bear so soon was promising.

We decided not to wait any longer in this spot, but continued along the crest of the ridge in the hopes of meeting our companions. Soon we reached the base of a rocky cliff, up which I climbed to get a view of the country. From this point of vantage I could see August and Liu upon a neighbouring rock indulging in a little goral hunt on their own. Suddenly, from below them, there broke out the joyous yelping and barking of dogs on a hot scent, and the two hunters scrambled down off the cliff into the woods below. Old Rasboi cocked his rounded ear-stumps, and whined a bit, but decided to stay with us.

We waited half an hour to see if anything would come of the noise and racket in the woods, or if a frightened goat would come our way, which was quite possible. Nothing happened, however, and the noise died away, so we decided to return to camp.

Thinking still of that bear, and, from my position above the woods, being able to make out the contours of the land, I suggested to Nicholai that we should take a line that would lead us across the head of the valley in which we had seen the bear's track. It has been my experience that beasts of the chase when disturbed are far more likely to head up than down a valley or ravine, and it seemed to me that, unless our bear had been very badly fright-

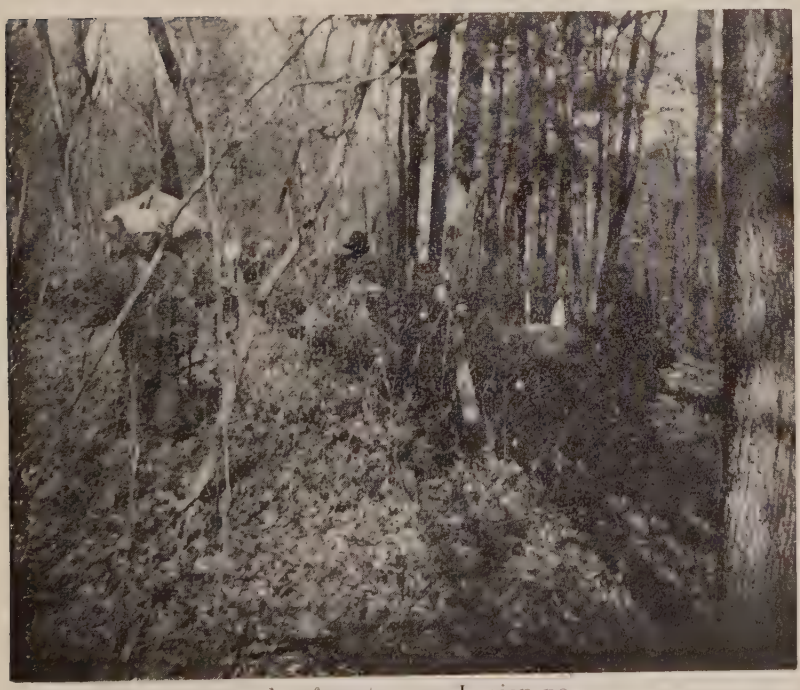
ened, there was a good chance of his being somewhere about the head of the valley. Nicholai agreed to my suggestion, and we set off through a heavy forest of oak. We had just reached the head of the valley when Nicholai, whose sight was more accustomed to picking out objects in the woods than mine, raised his rifle and fired. At the same moment Rasboi bounded forward with a growl, and soon we heard the same coughing grunts that we had heard before. This time as I rushed forward I suddenly came face to face with an enormous bear, who was twisting and turning, trying to slap Rasboi, as that redoubtable hero circled round in an endeavour to get the great brute's tail.

At sight of me the bear, which I could see at a glance was not the ordinary black bear, but resembled a grizzly in its size and heavy jaws and muzzle, gave a terrific rumbling roar that seemed to shake the ground, and ignoring Rasboi, who promptly fastened on to his hind quarters, charged straight for me. I was dimly conscious of Nicholai shouting to me to be careful, but the excitement of the moment was too great for me to pay any attention. I raised my rifle and pressed the trigger. Down went the great brute, now but forty feet away. He was up again in an instant, and lunged towards me once more. He was badly hit, however, my bullet, as we afterwards ascertained, having taken him in the upper arm, and, shattering the bone, lodging in the opposite shoulder. Of course I did not know this at the time, but could see that something serious had happened to the now furious animal. I fired a second shot and down went the monster once more, only to rise again and come on. Meanwhile Nicholai was wildly shouting at me, and looking round I saw him peeping out from behind a tree, his rifle ready for a shot.

I turned to face the bear again, which was now coming on on three legs, apparently bent on my destruction. Not wishing to damage that magnificent head, I stepped aside up the slope as the bear lunged past, and let drive at the spot where I thought his heart should be. Over he went again, and began to roll down the slope. He recovered once more and received a fourth bullet, this time in the neck.

He rolled over and over, crushing young saplings, and stripping the bark off the large trees with claws and teeth in his frenzy, till he fetched up at the ravine bottom. There he lay quiet, and I thought he was dead, so went down to investigate my prize. He heard me coming, and looked up. His eyes gleamed their hate as he gave out one more terrible roar, and

The high granitic peaks standing up above the forest, and the Tacist Priest's Hut and clearing north of I-mien-po.



In the forest near I-mien-po.

once more made a desperate attempt to charge. He actually succeeded in making several great bounds before my rifle bowled him over for the fifth and last time. Then he lay and grunted for a few minutes, while Rasboi, who had never left the great brute from start to finish, stood by his tail end, giving him a nip every time he moved.

At last we thought he must be dead, and again approached him. Suddenly, without the slightest warning, the huge brute reared up, struck savagely with a round arm blow at Nicholai, who only just dodged it, and then rolled over dead.

There he lay, such a monster as I had never dreamed existed in these forests, his massive head and heavy muzzle thrown back, his tree-trunk arms and span-wide paws hanging limply by his side, exposing the great chest, that lacked the white crescent of the common black bear.

Old Rasboi grinned from his post at the tail, the only safe place as his many encounters had taught him.

Nicholai fired two rapid shots into the air, the rally signal to our companions that we had found and killed game. Presently Damitchka, Mishka, and the yellow pup Djook, shot out from the underbrush, and immediately closed with the carcass of the bear. Such a bedlam of barks and yelps broke loose that Rasboi turned away in disgust, and flopped himself down at my feet. Save for that first growl as he charged in, he had not uttered a single sound during the whole combat.

Then the taxidermist and the two hunters arrived, and as it was getting dark, we set about gutting the bear; it being too late to skin the whole carcass that night.

Taking with us the heart, kidneys and the fat about the entrails, we set off towards camp as darkness fell. How we ever got back to camp in that inky blackness, and through the matted underbrush, I do not know. Nicholai led the way, and, to his credit be it said, never once did he hesitate. My position immediately behind him was rather a trying one, for the whippy hazel twigs, that he bent down or forward in his passage, sprang back and lashed me across the face, while not infrequently I got the full benefit of a stinging, ripping blow from the wicked thorn-decked branches of the *Eleutherococcus*. This last is a most unpleasant shrub. It grows thickly interspersed between the other breast-high shrubs of the underbrush, and one never knows when one is going to get torn across the hands, as one parts the branches to save one's face. My fingers and knuckles were full

of splinters from the sharp thorns, which caused unpleasant festering. I suppose the man behind me got my swing-backs, but if he did there was no complaint.

We reached the priest's hut after an hour's tramp, during which we barked our shins on tree stumps, fell headlong over windfalls, tripped over roots, but, after all, what did it matter? Had we not secured a grizzly, whom some of the natives considered more terrible than *Lao Tai*, the "Ancient Mighty One," the Tiger himself?

The bear's kidneys and heart were made into soup, and we did full justice to them, though I found the rank flavour of the rich layer of fat, that floated on the top, rather trying.

After supper we sat round smoking and drinking coffee, while Nicholai and the Chinese entertained us with bear stories.

Next day we skinned our bear, after taking careful measurements and photographs. He measured seven feet from the tip of the nose to the end of the tail, five feet round the chest, and thirty inches round the arm, above the elbow. The great fore-paw was eleven inches in length and seven inches in width. As there was no way of weighing the body, we had to estimate the weight. I put it down at about 600 lbs., and then asked Nicholai, who said 15 or 16 poods (540 to 576 lbs.). The little priest, who came to see the animal for himself estimated the weight at 500 catties (about 620 lbs.). As a matter of fact the actual weight must have been much more than any of us guessed, for the portions of the carcass that Nicholai took into I-mien-p'o a couple of days later, were found to be a good deal heavier than we had calculated, the Cossack receiving payment from the butcher for fully two poods more flesh than he thought he had. Besides this the bear was very much thinner than he should have been at this time of year, to judge from other bears we secured. There was scarcely any fat on the meat. I do not hesitate in setting the weight of the animal when in condition at something nearer 800 lbs.

The hair, one could hardly call it fur, was long, stiff, not very thick, and of a black colour, tipped in places with brown. Across the shoulders the roots of the hair were of a buffy-brown colour. The muzzle was brown.

It was a triumphal party that returned that day to camp, bearing the skin, skull, and as much of the meat as could be carried.

The following day we set off on another hunt. This time we circled round the northern base of the peak, on the slopes of which tall oak trees grew thickly, their "acorns ripe down pattering" forming a rich and enticing feed for bears and wild pigs. The dogs were all there, and as we climbed round the steep slopes, we kept a sharp eye on Rasboi and Damitchka, who would be the first to give a warning of any quarry afoot.

We had gone about a mile, when, suddenly, there was the sound of a large animal scuttling through the underbrush ahead and below us. The dogs came rushing together from all quarters, and there arose the most appalling din. Angry grunts and growls intermingled with the barking and yelping of the pack.

We could just see the dark form of a bear with the smaller shapes of the dogs all round, but I did not like to fire at so indistinct a target. The Russians, Naribia and Filatoff, were not troubled by any such scruples, however, and loosed off their rifles without bothering about the danger of hitting the dogs. Opposite us there was a gentle slope, which supported less undergrowth than usual, and we could see that the hunt was heading towards this. Presently there burst into full view a large black bear galloping clumsily, but with wonderful speed, across the almost bare slope, with the pack of yelping dogs in full cry after her. Only old Rasboi was silent, and he was close up to her fat, round hind quarters, straining to get his favourite hold.

Our rifles rang out, and the bear pitched forward, but continued for a while, then as more shots were fired, she rolled down the slope into the mass of brush at the bottom of the ravine, the dogs after her.

When we reached the spot, and examined our prize, we found two holes clean through her body, one bullet having passed through her heart, the other through the abdomen. It was impossible to say who had killed her, but I do not doubt that each of us hunters held private, and unshakable views on the subject.

This second bear was a fine female specimen of the common black species, *Selenarctos ussuricus* Heude. She was enormously fat, and her beautiful black coat was long and silky. I coveted her hide for a rug, but science comes first, so she was duly measured and flayed in the approved manner for the Museum. She was sixty two and a half inches in length, about fifty three inches round the chest, and weighed about 300 lbs. Her fur was pure black and silky, and was very long on the sides of the head and

neck. In fact she had almost a mane; the hair I measured was eight inches in length. On her chest was the characteristic white crescent, and the tip of her chin also was white.

Naturally I was very pleased to get specimens of both the species of bear that inhabit these forests. I ascertained later that the first bear belonged to the species *Spelaeus cavifrons*, which was described by Heude, the Jesuit missionary-naturalist at Sikawei Museum, Shanghai, from the skull of a specimen secured at, or near Tsi-tsi-har, some distance to the north-west of the district in which I was working. So far as I know I am the only European, other than the local Russian hunters like Nicholai, who has shot one of these bears, while my specimen, which now lies in the Smithsonian Institution at Washington is the only complete one extant; the skull in Sikawei being the only other specimen in any museum. I found out from Nicholai that bears of this species are very rare, he having seen only a very few in the course of his hunting in this district, which, he said, extended over ten years or more.

A few days later, after an interval of goral hunting and sport with hazel grouse, the dogs got on to the trail of another bear, and treed it after a long chase. They had gone so fast and far that we lost touch with them, nor could we even hear their mad barking.

It says much for the spirit of those dogs that they did not return that night. Next morning the brindled bitch came into camp wagging her tail, and asking as plain as could be for us to follow her into the woods. Naturally we were only too eager. Somehow we could not help thinking that something had happened to one or more of the other dogs. After a long tramp, our guide shot off up a slope, and we could now hear the eager yelps of the other dogs. A few minutes more, and there they were, dancing round a medium sized pine tree, half way up which hung a 200 lbs., bear. At sight of us the wretched creature climbed a high as she could go, but a carefully directed shot from Nicholai brought her down, and the dogs rushed in to finish her. There was a loud yelp, and Rasboi, the experienced and scarred hero of a hundred such fights, shot out of the struggling mass with his abdomen laid open.

The bear was dead almost immediately, however, or more serious consequences might have followed, for the dogs, driven to a frenzy by their long vigil, had evidently lost all caution.

Rasboi was tenderly carried home and nursed, and, strange to say, completely recovered. I never saw a dog with so many scars. Nicholai would point out each of the white lines and say "This was a wild boar, this a bear, this another bear," and so on. With docked tail and ears clipped round, he looked much like a bear himself, especially about the head.

The killing of so many bears proved very demoralizing to the dogs, because they were able to gorge themselves on the offal, and other discarded parts of the carcasses. For the first two days after leaving I-mien-p'o they got not a mouthful of food, breaking their fast only with the blood and entrails of the grizzly on the evening of the second day. Even then, though he thought so much of them, Nicholai brutally beat them away, after they had had but a mouthful or two.

CHAPTER XVII.

Hunting the Goral.

"The high hills are a refuge for the wild goats; and the rocks for the conies."

—*Book of Psalms.*

CHAPTER XVII.

Hunting the Goral.

The goral, or chamois of Asia, as it has been fitly called, is one of those little known animals, that, like the takin (*Budorcas*) and serow, seem to belong to some bygone inter-glacial epoch. Living mostly in the highest mountain ranges of East-central and South-eastern Asia, these animals have been shot by but a comparatively few European sportsmen. Their habits are correspondingly little known. Of the whole class the goral is, perhaps, actually the best known, especially as the knowledge of its range has increased considerably in the last few years, and sportsmen, who never even knew of its existence, have been able to add its head to their list of trophies.

Formerly it was known to Himalayan sportsmen, while Père David, the famous missionary naturalist, had discovered species in Eastern Thibet and various parts of China. Heude, whose collections lie in the Sikawei Museum in Shanghai, named several more species from various parts of China.

Species of this animal are now known to inhabit almost every province of China, the states along the eastern borders of Thibet, the Himalayas, Indo China, Corea, Japan and Manchuria. But always it is found in the highest, most inaccessible mountains, where it keeps to the cliffs and crags.

As in hunting the chamois, the sportsman who wishes to add the horns of one of these animals to his bag, has to be prepared to do a great deal of stiff and dangerous climbing.

Imagine my surprise then, when I learned that goral were to be had in the forested region to the north of I-mien-p'o. Nicholai called the animal *barran*, and shewed me a fine, large skin of one that he was tanning. There was also the head of a smaller one hanging on the wall in Mr. Wischniakowski's house; and from what I could see these were very different from the North China species. I did not know then that Radde had long ago discovered the presence of a species of goral in the Amur region, which Heude

later described as a distinct form under the name of *Kemas raddei*. Up till then I had seen nothing in the way of high, inaccessible cliffs in the region to form the required sanctuary for the goral, all the hills and mountains that I had seen being more or less rounded, and heavily timbered.

Yet I was wrong in my belief that no inaccessible cliffs existed, for as already intimated there were some very formidable ridges and peaks scattered throughout the forested area to the north of I-mien-p'o, forming almost impregnable retreats for the agile, goat-like creatures.

On our arrival at the priest's hut, Nicholai enquired if there were any *barran* or *yang*, as the Chinese called them, on the peak, to which the little fellow replied that there were a good many, but that we would not be able to get them unless we had wings. Next morning he pointed me out several rocky spurs on the main peak, whereon he said he often saw the goats standing. I made up my mind that wings, or no wings, I would get up that peak and secure if possible a shot at the elusive animals, but for the moment bear hunting was the order of the day.

At last, after we had killed the second bear, I decided to devote some time to the gorals. We began by scouring all the lower cliffs in the region in the hopes of finding our quarry. There were not wanting signs that a good many of these animals inhabited the district, but try as we would we could not actually discover one. I soon found that even the lowest ridges taxed my climbing powers quite severely enough. They rose up to a considerable height, and were very precipitous and narrow, often only a foot or two being left for one's passage with a drop of several hundred feet on either side. Frequently if it had not been for the pines and spruce that somehow had found a foothold and driven their roots deep between the crevices in the granite rocks, I should never have been able to make the ascent. I found that as a cragsman I easily beat the Russians, which was no little satisfaction to me, for they were easily my masters at tramping through the forest, carrying load, and roughing it generally.

Those rugged cliffs were very beautiful. Cut up by the action of wind and weather into a thousand fantastic shapes, the whole rock surface was covered with grey lichens, or dark green moss. A fragrant leafed azalea grew where no other plant could thrive. Scraggy pines and spruce fringed the lower knife-ridges, or clung desperately to the precipitous sides, their tops sometimes coming flush with the usually flat-topped spurs.

Often when sitting high up on one of these spurs, waiting for the hunters and dogs to drive the game my way, I commanded a fine view of the country and saw many an interesting bird. Once a handsome peregrine falcon came circling round, eyeing me suspiciously as it swooped past, intent on frightening some luckless hazel hen from the safe shelter of the pine tops. Below me, scouring some beetle-infested cracks in the overhanging rock, I could hear the peculiar whistle of the green woodpeckers. I had noticed them on my way up to my perch. The falcon also knew they were there, but his fierce swoops only made them cling closer to the friendly, sheltering rock, which he dared not approach near enough in his swoop to seize his prey for fear of dashing his own brains out. Finally he flew away to seek easier prey elsewhere.

Sometimes I came across small flocks of hardy mountain accentors (*Prunella erythropygius* Sw.), little brown and grey birds, that love only rocky cairns and screes of high mountains and hills, where, amongst the piled blocks of rock, they play or hide from danger.

Once or twice during our hunt gorals were put up, but they always eluded the rifles, escaping through the thick forest from one ridge to another. We covered a wide stretch of country, systematically working, one after another, the more or less isolated islands of rock, but always without getting a chance of a shot at our quarry.

Several times I suggested to Nicholai trying the high peak above our camp, but he always discouraged the idea by saying that it was too near to a human habitation to shelter any gorals; but I was not satisfied. Gradually I took to exploring the lower slopes by myself, and at last discovered some fresh tracks of the game I was after. There were several large caves about half way up, and these showed unmistakable signs of having been recently inhabited by gorals. In one of these, which was very difficult of access the priest had built a little shrine, and one day he took me up to it to explore its deep interior for bats, while he burnt incense and prayed at the shrine.

Finally, the presence of gorals on the peak was proved beyond dispute, for on getting up early one morning, I found the priest excitedly pointing to the crest, and saying "*Yang, yang.*" There, sure enough, was a fine goral standing black against the sky.

Dressing with all possible speed, Nicholai and I set off toward the base of the mighty spur of rock. Bit by bit we worked our way up the lower slopes, then out along a side ridge. At this point

we discovered that there were two more gorals lying just below the sentinel one. The latter began to show distinct signs of uneasiness, and I foolishly listened to Nicholai's voice at my side urging me to shoot.

I raised my rifle, resting it against a tree, but, before I had brought the sights on, there was a terrific explosion almost in my ear, as Nicholai discharged his rifle. I fired wildly as the goats scrambled up, and missed, of course. Nicholai also missed, and we returned to breakfast a very sulky pair.

I spent the rest of the day exploring the peak for a way up. First I tried the north side as that looked the best way, but I soon found that a wide gap which it was impossible to cross guarded the highest peak. The descent was very hazardous, but at last I got down, and next tried the south-eastern side. The western side I had already tried, and had found that the last five hundred feet actually overhung the lower portion. The south-eastern and southern side proved equally unscalable, hampered as I was with my rifle. There remained only the eastern side, and as it was late in the afternoon I determined to make the effort to get up that side next day. I had studied it well from below and felt sure I could manage it.

In goral hunting, the great secret of success is to have a number of men posted so as to command all the regular paths by which the animals travel about, and to and from the cliffs. These paths are kept to under almost all circumstances, for they are often the only possible means of getting from one spot to another. The trained eye can detect them at once. Here the rock is worn smooth in a little round patch where countless pairs of hoofs have landed after taking off from that slight spur. There, down a steep slope, a faint dark band marks where oft repeated passage of rubber-like feet have kept away the grey lichens, and so on.

As I had made up my mind to reach the top of the peak somehow, and feeling certain of putting up our quarry, I did not want it to be in vain, for the goats might easily escape me. So I decided to divide our whole party up, and set them at different points on the lower slopes to cut off the retreat of the gorals if they should escape my rifle.

Then Naribia, the only one of the Russians who showed any aptitude for climbing, and I commenced the long and difficult ascent on the eastern side. At last, after a considerable amount of exertion, and some rather ticklish moments, when we were hanging on by our eyebrows, so to speak, we reached the summit.

Naribia and Filatoff with a Manchurian Black Bear shot in the I-mien-po district, N. Kirin.

Filatoff and Naribia with a Goral shot by the Author in the I-mien-po district, N. Kirin.

Stopping for a few moments to take breath, we next commenced to work cautiously over the top. Suddenly two gorals jumped up from the shelter of a ledge below me, and started scrambling with their wonderful cat-like agility down towards the spot where old Liu was waiting. I fired almost without taking aim at the foremost goat, and had the satisfaction of seeing it roll over down towards Liu. In like manner my second shot got the other, but, though badly wounded, it managed to recover, and passed Liu travelling at a good speed, as if unhurt. He let drive with buckshot, but the goral escaped into the woods below, where, however, the dogs were waiting. They ran the animal down within half a mile, and held it at bay till Nicholai came up and dispatched it. Mishka received an ugly wound in the face from the goral. I did not see this final act, but, judging from Nicholai's description, it must have been a fine sight to see that goral, its back to a cliff, holding those four savage dogs at bay.

The two animals were carried to camp, where they were photographed and measured before skinning. As specimens of their kind they were a little disappointing, for I had hoped to secure something nearer the size of the large animals Nicholai had told me about, skins and horns of which he had produced to back his statements.

Still they were well worth the effort of getting them, as they were representatives of a very rare species, and one of which but few museums have specimens.

The largest species of their kind, the Manchurian gorals are further distinguished by their long, white, instead of black, tails; and their generally lighter more greyish colouring.

CHAPTER XVIII.

The Smaller Denizens of the Woods.

"Study the book of nature that God hath spread out before thee, and so thou will store up knowledge in thy brain and peace within thine heart."

—*Euripides*

CHAPTER XVIII.

The Smaller Denizens of the Woods.

Though comparatively little has been said in the last few chapters about the smaller animals and the birds of the forests round I-mien-p'o, the reader must not suppose that this was due to any paucity in either their numbers or variety. On the contrary, in such higher branches of animal life as birds, mammals, amphibians and fishes the region seemed, if anything, richer than those parts of Manchuria previously visited by me. Only in the lower forms, insects and the like, was there any very marked diminution. But this was due to the season; as, on a later visit, made at an earlier season, I found them as abundant as elsewhere.

It will be remembered that in the forests of the upper basin of the Sungari, and along the Yalu, I refrained from shooting game birds owing to their being out of season. Here in the I-mien-p'o region I was hampered by no such restrictions, and so was able, in the intervals between the chase of larger animals, to indulge in a little sport with the fowling piece.

Even so I did not devote more than a day or two to this genial occupation, nor did I try to make anything of a bag. For instance, though pheasants were plentiful in the wide valley to the west of I-mien-p'o, I did not spend any time at all after these splendid game birds, nor did I devote any time, as, perhaps, I should have done, to the chase of black game. Indeed, to secure the latter would have entailed a journey back to Harbin, and from thence north-west to the forested areas in that direction.

The only game bird, that can be considered really plentiful in the North Kirin forests, is the hazel-grouse, and it is interesting to note that the form in this region, and the Amur and Sungari basins generally, turned out to be a distinct sub-species, when the specimens that I sent to Washington came to be examined. It was described by Professer Riley under the name of *Tetrastes bonasia amurensis*, forming one of the few new discoveries in my explorations. The Russian name for this bird is *Riabchick*, the Chinese *Hsu Chi*, meaning tree fowl. It closely resembles the famous American ruff-grouse, differing mainly in the absence of the ruff.

Living always where the pines, spruce and oak grow densest, it is a difficult bird to shoot, unless one takes to the somewhat

unsporting, though at times very necessary, method of shooting it as it sits crouched low on the limb of a tree, which it matches so closely in its grey-brown and mottled plumage.

The first thing the hazel-grouse always does, on being disturbed at its feeding on the ground, is to fly into the nearest tree, where, if danger presses, it tries to conceal itself by simulating its surroundings. If disturbed from this coign of vantage, it streaks away through the forest, dodging the tree trunks in a bewildering way for the sportsman, who experiences great difficulty in bringing his gun to bear upon the bird with no obstacle between.

Several times during my tramps through the forest, I had noticed grouse sitting close to me, but had had to let them go, either because I had not my shot gun with me, or for fear of disturbing bigger game; but the first morning after reaching the little priest's hut afforded me a chance of shooting some of these birds, and I was glad to take it.

It appeared that Naribia was an expert at *riabchick* shooting, so, taking my shot gun, I went with the young man into the woods adjacent to the clearing. We soon reached a spot suitable to our purpose, and stood still for several minutes to listen.

"*See, see, see, siruru, siruru, siruru*!" Where did that high pitched, soft, yet piercing whistle come from Instinctively we crouched into the underbrush and listened. Out came Naribia's decoy whistle, cleverly made from a goose quill and a pinch of wax, and "*See, see, see, siruru, siruru, siruru*," he mimmicked. Immediately an answer came from high up in a tall pine. Carefully creeping forward, with eyes searching the dark masses of needle-like foliage, and grey, twisted branches, we endeavoured to locate our quarry, which was certainly watching with burning eye our every movement. Though there was no intention on my part of shooting a sitting bird, it was necessary to locate its whereabouts before it flew, in order to be on the right side of the tree. Otherwise there would be no chance of bagging it at all.

I could not help marvelling at the wonderful accuracy of Naribia's decoy whistle. Even now as we stood under the very tree in which our bird was hiding, its seductive tones proved so irresistible, that a grey form, which I had all along taken for the dried stub of a branch, shot out a long, inquisitive neck, and gave an eager answer. We were on the right side of the tree, so I gave Naribia the signal to startle the bird into flight. Up went a dried pine-cone, there was a rapid drumming of wings, and

away went the bird, a streak of grey-brown, barred with black. Bang! the streak suddenly stopped dead; a little puff of feathers floated gently away, and Naribia ran forward and gathered in a fine, fat hazel-hen—my first.

A few more were needed to feed our hungry crowd, for we had brought no fresh meat with us, and did not want to start on our smoked and salted stuff right away.

A short walk further into the forest brought us to another good spot, and once more Naribia blew his decoy. This time answers came from two directions, while a flutter of wings told us that one of the birds had actually come a little nearer.

Again call and answer, a careful searching of the overhead branches, and there followed the discovery of a grouse, this time in an oak, and looking more like the stub of a lopped off branch than ever. A few seconds later it, too, was carefully stowed away in Naribia's pocket.

The third grouse did not wait for us, but made good its escape. It was not very long, however, before we located a fourth, which was bagged. Two of the large turtle doves of these woods were also potted, and with the five juicy birds we returned to camp, just in time to add them to a mushroom stew for lunch. So was I initiated into the mysteries of hazel-grouse shooting, as practised by the Russians in this district.

Later I secured several more of these plump and exquisitely flavoured birds, but none ever tasted as good as those first did.

On one occasion I had the opportunity of watching, myself unobserved, the actions of a pair of grouse, which were disturbed by Filatoff and the dogs on a goral drive. I had taken up my post on a low cliff, which commanded a good view of a gentle slope, somewhat less densely covered with hazel-brush than was the rule. Here the two grouse were busy turning up the dried leaves in search of food. As one of the dogs came into view they both fluttered into an oak tree, where they perched, cocking their heads over to get a view of the disturber of their peace. Presently they caught sight of Filatoff, and immediately they pressed themselves down on the branch and became invisible. One, to make itself more obscure, crept up to where the limb forked, one branch pointing upwards. The sagacious bird pressed itself into the angle and immediately became part of the tree itself.

As Filatoff passed close under the branch the other bird lost its nerve and with a whirr of its wings went off, alighting on a distant spruce. When man and dogs had gone and there was no

further sign of them, the bird hiding in the angle of the branches put up its head and gave that peculiar whistle. It was answered immediately and before long both birds were once more contentedly searching for pine nuts or acorns on the ground.

Pheasants, though not nearly as plentiful as the hazel-grouse, were common enough in the flat valleys, and where the tall timber had been cleared away. The Manchurian pheasant resembles the common species from China, both in habits and appearance, so no further space need be devoted to them.

The only other game I came across in this district were the hares, of which I found two forms. Decidedly the most interesting of these was a large, black forest-inhabiting animal, a single specimen of which was secured.

While taking an evening tramp one day in search of a wild boar that a local trapper had told us about, the dogs suddenly put up this animal, and gave chase. I could hardly believe my eyes, for I had never heard of a wild black rabbit or hare. Naturally I joined in the chase, and when the screams of the doomed creature announced its capture, I rushed to rescue it from being torn to pieces. I was just in time to secure a dilapidated and mangled carcass, which gave me several hours' hard work to skin and patch up sufficiently to form a specimen.

Nicholai and the other hunters were convulsed with laughter, when they saw me returning triumphantly bearing the tattered remains of the hare. They could not understand my excitement at all. They said there were plenty more such creatures in the forest, and I could easily secure a good specimen. Nevertheless that was the only one I ever saw, and very thankful I was to have saved it.

Later on, after snow came, I secured a second hare, but this one was more like the typical hare of the plains, though it had a considerably darker coat. This specimen was also badly damaged by the dogs, and unfortunately, though I carefully hung the skull up to dry in a hut where I was sheltering, the owner, thinking I did not want it, added it to a stew, and gave the bones to his dog while I was out. This proved very regrettable, since I did not secure another specimen of the light coloured hare, so that it was impossible to make a comparison between the skulls of the two forms, in order to determine whether they represented two distinct species, or whether the black form is not merely a colour phase of the Manchurian forest hare, named by Radde *Lepus mandshuricus*.

As is only natural these game birds and animals have a good many enemies. In the feathered world their chief enemies are the peregrine falcon and the fierce sacer falcon, both of which birds I saw more than once, though I was unable to secure specimens. A large wood owl (*Strix uralensis nikolskii*, But.) threatens their safety by night.

One evening as I sat with Nicholai watching for wapiti at the edge of a clearing I got an excellent opportunity of studying something of this night marauder's methods. Where it came from I could not say, but suddenly it was there, sitting on a dried branch overhead, a large mottled bird, with long wedge-shaped tail, and soft dark brown eyes. After sitting quietly for a minute or so, it suddenly uttered a series of ear-piercing shrieks, then sat silently listening. Evidently some nervous bird had ruffled its feathers, or moved on its perch, making only the least possible noise, yet with a scream the owl launched itself forth, swooped into a dense mass of foliage, reappearing with a feathered victim, a jay or azure-winged magpie or some such bird, grasped lifeless in its cruel talons.

On another occasion, as we were marching, Indian file, through the forest, one of these birds flew from a tree, under which we passed, and settled on a sapling about fifty feet away. Naribia obliged me by putting a bullet through it, and so secured for me a nice specimen.

While on the subject of owls I must just mention a tiny little fellow, no bigger than a thrush, which I secured one morning. It came flying past me, and settled on a low tree with its tail cocked in the air like some small perching bird. It kept flirting its wings, and cocking its tail, looking as cheeky as a wren. I could not help wondering whether this performance in broad daylight was not to delude the other small birds into the belief that it was harmless, for anything less owl-like than the antics of that little fellow could not be imagined. I am sorry to have to record, that, in the interests of science, the pretty little bird was taken for a specimen. I subsequently identified it as belonging to Taczanowski's species *Glaucidium passerinum orientale*.

Another feathered marauder of these woods was the raven, a fine specimen of which I secured. The local form probably belongs to Taczanowski's *Corvus corax ussurianus*; it certainly is different from the great bird that occupies North China and the Mongolian Plateau. The ravens in the forests of the district under discussion always hunted in couples. It was remarkable how

quickly a pair would turn up the moment we had shot anything. They were great thieves and marauders, and justly deserved the short shrift the local hunters always gave them. Nicholai particularly disliked them, and would go to any amount of trouble to hide the various parts of deer, or bear, that we had to leave behind. He was a funny fellow, was Nicholai, over his meat. He never wasted a scrap, not even the entrails and stomach. He would clean all the internal portions of any game we secured, and hang them up in the bushes, or sink them in some stream, and whenever we passed near the place, he would motion me to go on, while he turned aside to see how his larder was getting on. Sometimes he would reappear with a piece of liver or lights that had reached the right stage of tenderness and aroma, and which he would lug about with him till meal time, when he would use it to make into soup. It mattered not at what state of putrefaction the loathsome stuff had arrived. Naturally he did not like his caches disturbed, and hated the ravens, who, once having found one, would soon make havoc of it.

Besides the ravens, there were several smaller members of the genus *Corvus*, most conspicuous of which were the jungle crows, (*Corvus macrorhynchus mandshuricus*, Buturlin), easily recognized by their enormous raven-like bills. These were more common in the precincts of the town than in the woods.

Once, while on a bear hunt I saw a single specimen of the nutcracker, of which the local form goes by the name of *Nucifraga caryocatactes macrorhynchos*, Brehm. This is a forest bird, and one, which in Manchuria, at least, seems to be rather a rarity.

The grouse and hares have some very much more deadly enemies than the ravens, or even the large wood-owls and falcons. These do not belong to the feathered world, however, being various members of the mammalian carnivores. Probably the most bloodthirsty of them all is the yellow-throated marten (*Martes flavigula borealis*, Radde), a specimen of which Nicholai shot for me, as already related. Though I did not run across another of these large mustelines, I frequently saw their tracks, especially after the first fall of snow, which came towards the end of October. The Russian hunters showed me several skins, which they had recently secured. Wandering through the woods on its relentless trail of destruction, this savage animal is to be compared only with the pekan or fisher-marten of North America. Yet it is a handsome creature, with its black head, white chin, merging into bright orange-yellow on the throat, which in turn merges into

yellowish brown on the back of the neck, getting more of a greyish brown on the back, finally ending in the pure black of the long bushy tail. The legs and underparts are also pure black. The animal is an expert climber, is armed with strong, sharp claws, and in body is about the size of a fox, though the legs are shorter and thicker than in the latter animal. Next in size, amongst its congeners, comes the pine marten and the sable. There appears to be some doubt as to whether these two are really distinct from one another, certainly the fur dealers seem to consider what some call the marten only an inferior grade of sable, and sell the pelts accordingly. But, on the whole, one is inclined to the view that the sable and marten of these parts are two distinct animals. I have frequently seen skins that have been sold as Manchurian sable, which are undoubtedly only rather fine specimens of some eastern representative of the common pine marten. Science seems to have settled the question by naming the sable *Martes zibellina*, while the marten's name is *Martes martes*. In any case the question would bear further investigation. Neither of these animals crossed my path in the flesh, though I saw skins of both.

One day, as we were marching through the forest in our quest for bears, the dogs suddenly made a wild dash after some small animal. There followed a shrill agonized scream, and when we arrived on the scene, we found a fine mink lying dead. The dogs were snuffling and rubbing their noses with their paws, and a most appalling stench pervaded the air. The mink in its dying agony had, skunk-like, liberally besprinkled everything with the pungent, clinging excretion from its scent glands. In spite of this I appropriated the dead animal, and slipped it into my hare-pocket, where its taint remained for many a day. This mink, which differs from its European and North American cousins in being of a much lighter colour, a sort of sandy or buffy red, something the colour of a sorrel horse, is not very valuable, though the local trappers are glad enough to secure its pelt, which, at the time of my visit was worth about a rouble. The skin, or fur, is much thicker than that of the North China mink. The specimen I secured has been identified as Milne-Edward's subspecies of the Siberian mink, which is known as *Mustela sibirica davidiana*.

Least of all the forest marauders, unless moles and shrews be classed in this category, is the little weasel, (*Mustela nivalis pygmaeus*, Allan), whose skin is known to the Chinese fur-dealers as *Pai Shu*, or "white rat." Of a deep chocolate brown above, with white underparts in summer, this little fellow changes, in

winter, to a snowy white, without any black, such as displayed in the tip of the ermine's tail. I secured a specimen whose brown coat was falling, new white hairs showing underneath. Too small to tackle a full grown hare or to capture an old grouse, the weasel, nevertheless, does much damage to the young of both, but its chief prey are the mice and voles, with which the woods abound.

The ermine, also, inhabits these woods, but I did not secure any specimens, though I saw one, or what I took to be one, in its full winter coat of white tinged with yellow, on the same day that I shot the grizzly. The animal in question climbed down the trunk of a tree a few yards from me and escaped into the underbrush.

Manchurian Fur Squirrel.

This brings us to the only other fur-bearing animal of any value in these woods, namely the grey squirrel. As the leaves of the trees fell, leaving the branches bare, it was more easy to detect the presence of these lively little animals, and I was surprised at their numbers. I came across two on the very summit of the peak, where I got the gorals. Often the dogs gave us false alarms by chasing squirrels through the forest while we were hunting; but the latter were usually much too smart to be caught.

Though I had heard of them before, it was in the area north of I-mien-p'o, that I first was given any proof of the existence of flying squirrels. The native hunters showed me some little square pelts, which I had no difficulty in recognizing as belonging to some form of *Sciuropterus*, of which genus several species have been described from neighbouring countries. I did not take any of these skins as they were without head, legs, or tail. In a way I was sorry afterwards that I had not done so, for I never secured any specimens, nor did the opportunity again present itself of obtaining even parts of skins.

Chipmunks, wood mice, field mice, voles, and the large common rat were all caught in my traps; though nothing in the way of shrews or moles were taken. One day I very nearly caught one of the latter. Passing along a path I noticed the characteristic ridge of up-turned earth that marks the tunnel of one of these animals. I stooped and thrust my fingers through the roof of the tunnel. They came into contact with the soft fur of the mole itself, but ere they could close the animal had slipped away, nor could all my frantic tearing up of the boring discover the fugitive inmate.

I must not omit to mention a bat which lived in the priest's hut. Late at night, when all the lights were out this little animal used to come out from its hiding place in the eaves, and flutter about, presumably catching flies, which, doubtless, it brushed from their resting place on the rafters. Several times I tried to catch it, and once actually knocked it down with a cloth, but it was up again in a second and made its escape through the ventilation hole. It did not return after that. The priest told me that the bat, or a bat, usually stayed in the hut throughout the whole winter. If, however, I failed to secure this particular specimen, I did get another that was captured in one of the Russian's houses. This was a very peculiar looking bat of the *Murina* group, in which the wing membranes near the body were covered with very long hairs. I have since described it as a new subspecies under the

name *Murina huttoni fuscus*. I think there is not the slightest doubt that certain species of bats remain in this country, cold though it be, throughout the winter; while it is equally certain that others migrate to warmer climes.

The natives told me that besides the animals I have mentioned there were in the district badgers, foxes, an occasional wolf, wild dogs, lynxes, some form of wild cat, muskdeer, and, of course, tigers.

I saw the skin of a badger nailed on to a door to dry, but of wild dogs I could get no very definite information. Nicholai told me that he had shot two, and had seen them on several occasions. He said the time to hunt them was when there was deep, soft snow on the ground, which forced them to travel by paths made by man or deer. Later, when the crust hardened, one would never get a chance of even seeing them.

The presence of the wolf, lynx and wild cat I had to take on trust, for I saw no sign of any of them, yet there seems no reason why they should not be there.

Tigers there certainly were. On more than one occasion I saw very distinct tracks of these great felines. Also I was shewn photographs of large specimens that had been shot or poisoned by local hunters, or sportsmen from Harbin. There was one Russian, who enjoyed the reputation of being a great tiger-killer, having killed three in the last two years.

Although I asked him to assist me in getting one, offering him the value of the tiger in hard cash if we should be successful, he could not be tempted to give up his present occupation, which was the hunting of *hunghutzu*, and for which he was well paid. The fact that he, a hunter of tigers, which are often called hu-tzu by the Chinese, should be employed to hunt *hunghutzu*, was looked upon as the joke of the season, Chinese and Russians alike enjoying the play on the words. His knowledge of the forest, and the hiding places of the local bandits made him a valuable ally to the Russian authorities, and it was largely due to him that the six robbers, who murdered the yard-master at Yablonai, were laid by the heels.

After we had secured the gorals we turned our attention to pig hunting, but without success. We came across the track of one animal, but could not run it down.

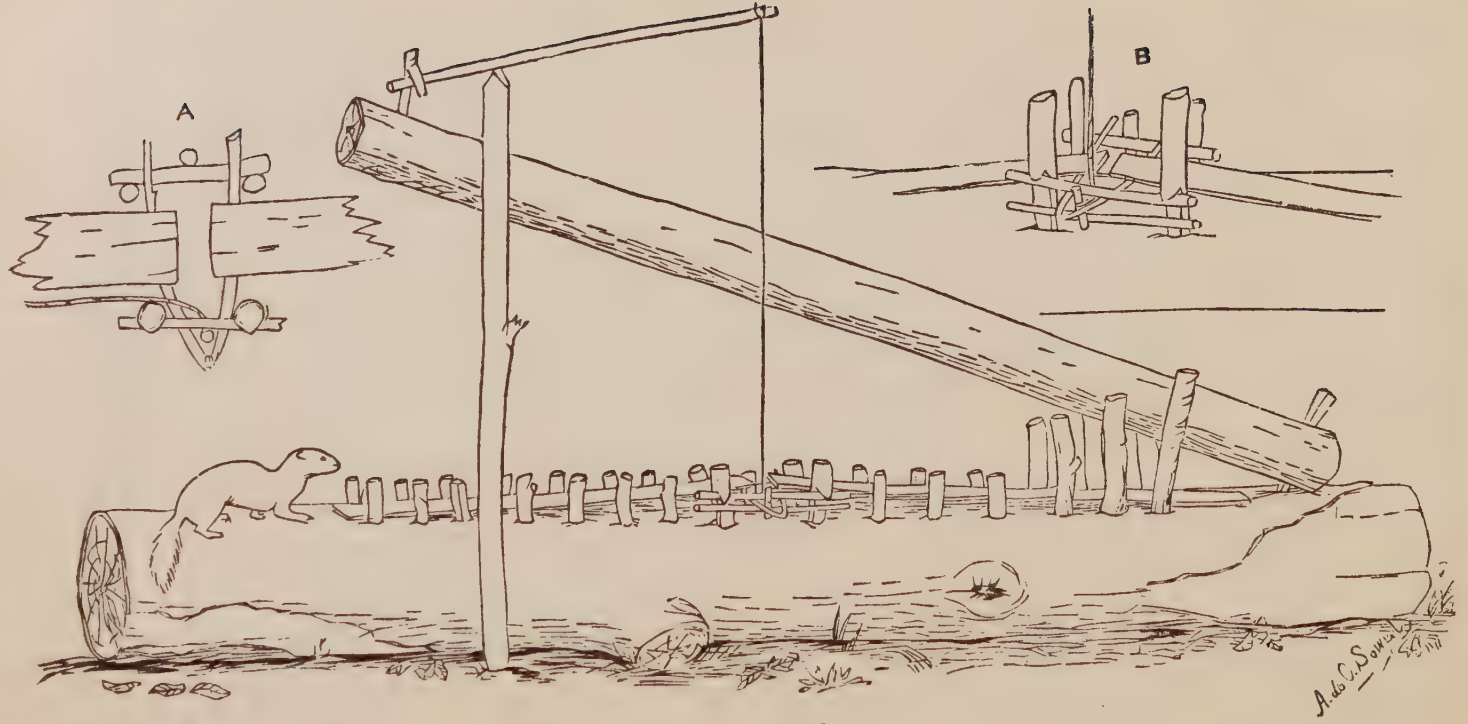
It was while following this track that we came across a hunter setting a deadfall trap for small fur-bearing animals. I had

several times seen old and disused specimens of this ingenious trap, but this was the first opportunity I had of finding out how it was set and worked.

Roughly speaking, a deadfall is a trap in which the victim, by releasing some sort of trigger, causes a log or heavy pole suspended in the air to fall upon it. In America a great variety of deadfalls are used to trap all kinds of animals from bears down to mink; but none of them is so ingenious or more effective than the one used by Manchurian trappers.

In the construction of this deadfall an old windfall, not too rotten, is chosen. Next a young and straight maple tree, about six inches in diameter, is cut down and trimmed to the required length, eight or ten feet. Then a double row of stakes are driven into the windfall so that the fresh cut pole fits comfortably in the trough they make. The end of this pole is split and a stake set to pin it to the windfall, thus forming a hinge, upon which the pole may move freely up and down. Two long, narrow slats are cut and placed end to end between the double row of pegs. The two ends that touch each other about the middle of the windfall are raised a few inches and supported one on either arm of a V-shaped twig. The angle of the V is caught between two other straight twigs, which are held in place by notches in two of the side pegs. The two ends of the V-twig rest on a piece of wood between two pegs on the opposite side. Between the two twigs, which hold the angle of the V-twig, a small piece of wood, fastened to the end of a piece of string is caught. The other end of the string is attached to a stick, about three feet in length, which, in turn, lies across a prop, stuck into the ground beside the windfall, and holds up the end of the pole, by means of a wooden hook. The deadfall is now set. It is based on the fact that all the little four-footed beasts of the forest will always run along the top of any windfall that they come across. Of course, directly a mink or squirrel or even a weasel tries to run along this windfall, it must pass up one or other of the slats of wood between the pegs. The extra weight presses down the lower of the two straight twigs holding the angle of the V-twig, which was holding in place one end of the little piece of wood attached to the end of the string. It is thus released, the end of the cross-stick flies up, and down comes the pole, catching the little animal in its descent.

The trappers set about preparing a long series of these deadfalls in the autumn, and throughout the winter visit them on a



Manchurian Deadfall Trap

A. Plan of trigger mechanism

B. Trigger mechanism

daily round. They serve equally well for sables, martens, minks, ermines and squirrels.

Another trap I saw while in this district was one set for gorals, and, perchance, muskdeer. This consisted of a noose set in a gap in a specially constructed fence running from the base of a cliff down hill to the valley bottom. The noose is cleverly pegged down, the other end being attached to a stout sapling bent almost double. The animal, in passing through the gap, runs its head through the noose, which, loosed, releases the fastenings by which the sapling is bent over. The latter straightens out, and the luckless victim is suspended in mid air, where, unable to break loose, it soon dies.

I also saw benches made to support spring-guns, which are set in the winter for bears and tigers; so it behoves one to go carefully in these woods during the winter.

James, in his book "The Long White Mountain," describes the making of pitfalls for the larger species of deer, but I did not come across any of these.

While on the subject of traps it is interesting to note that E. H. Fraser in an article entitled "The Fish-Skin Tartars," published in the *Journal of the China Branch of the Royal Asiatic Society*, 1891-92, describes the methods employed by these inhabitants of the Amur and Ussuri regions in catching the sable and other animals of the chase. It appears that they utilize the fact that sables cross running streams by means of any trees or logs that have fallen across, by making a barrier of twigs on any such log, and leaving a small gap just large enough to let the animal pass, in which they set a noose attached to a bent wand, exactly as in the trap for gorals and muskdeer described above.

The same writer also states, that when the streams freeze over, enabling the sables to cross without the aid of the windfalls, the Tartar hunters resort to spring-bows, such as are also used in China, with which they kill not only sables but larger animals, even reindeer.

Again, referring to the trapping of muskdeer, he gives the following "There is a special trap for these animals. The muskdeer, treading on a platform round which is laid a running noose, tilts up one end of the loose boards, and by so doing releases the catch which holds down a bent small tree to which the noose is attached. The tree straightens itself instantly, carrying the deer aloft suspended by the legs in the cruel *lazo*."

It is interesting to note that this method of catching the muskdeer is commonly used in China, especially in Ssu-chuan, and the west generally. One wonders whether it originated with the Chinese, or whether they borrowed it from the Tartars.

In addition to trapping animals, the Chinese of this region make fish-traps, which they employ rather ruthlessly in exterminating the inhabitants of the streams. They build a dike across the stream, leaving a small gap where the water shoots on to a wide, gently sloping grating, which, acting as a sieve, catches any fish that happen to have drifted or swum down the shoot. As trout, and other closely related fish abound in these waters, they fall the chief victims, and, large or small, are all utilized by the captors.

I secured several varieties of fish in this region, including trout, miller's thumb, and a peculiar form of perch or bass, usually taken in deep, still ponds in the forest. These last are spineless, and are usually very fat, rather soft defenceless sort of fish, and one is led to the belief that their homes in the forest pools are uninhabited by any other larger fish, that might prey on them. Pike are caught in the streams, and are great favourites with the Russians. The Chinese call this fish *Kou Yü*, or Dog Fish, and do not consider it very good eating. The scientific name is *Esox reichertii*, Dybowski, and it resembles very closely the European form.

Space will not permit of a detailed account of all the many birds encountered during our tramps through the woods, but as most, if not all, have been mentioned elsewhere, it is only necessary to state that there was a great abundance of the smaller passerines, and woodpeckers.

So interesting was the district in the vicinity of the great peak, that I stayed on longer than I had at first intended, but at last the end of the glorious autumn came, and dread winter was at hand.

There came a day when a cold north wind was heard rustling through the trees. Down came the leaves in great showers of red and gold and brown. In twenty-four hours every tree, except the spruce and pines, stood stark naked. All the birds disappeared as if by magic, and then came the snow.

Another twelve hours and the land was completely changed. Where there had seemed to be only dense walls of foliage, long vistas now opened up, showing the leafless twigs and branches of the shrubs all covered with white frost crystals. It was exquisite,

but cold and lifeless. Winter had laid her icy pall over everything.

I left the district north of I-mien-p'o and once more worked eastward, this time a good deal farther than I had as yet been, reaching the top of a high divide at a place called Kao Lin-tzu. Here I spent a few fruitless days hunting through the forests in the knee-deep snow, in the hopes of coming across wapiti or tiger tracks. Had we found these it would have been possible to follow up the trails with a reasonable chance of getting a shot at the animals; but somehow we drew blank.

I was not equipped for winter work in these regions, so finally decided to return to Tientsin before the really cold weather overtook me. But, in spite of my failure to secure a decent head of wapiti, or a shot at that most coveted of all animals, the Manchurian tiger, I felt that on the whole this expedition had been a very successful one.

CHAPTER XIX.

The Lower Sungari, Farming, and Floods.

Till I heard the mile-wide mutterings of unimagined rivers,
And beyond the nameless timber saw illimitable plains.

—*Kipling.*

CHAPTER XIX.

The Lower Sungari, Farming and Floods.

Following the expedition into the North Kirin forest after big game, I visited, late in the winter, the newly opened hunting reserves to the north-east of Peking, known as the Tung Ling, or Eastern Tombs, which, during the Manchu dynasty, constituted at once an Imperial park, a game reservation, and a mighty, mountainous and wooded burial ground, sacred to the memory of the earlier Ch'ing Emperors.

In the spring I made a rapid, and successful excursion into the Tai-pei Shan region of South-western Shensi after the far famed golden takin (*Budorcas bedfordi*, Thos.) and other interesting animals, returning to Tientsin early in the summer.

The question then arose of my transferring my activities to the Yang-tzu valley and South China generally in order to complete my investigations into the Zoology of China and neighbouring territories.

It was impossible to tear myself away from the north, however, till one more attempt had been made to explore, from a naturalist's point of view, some of that vast territory drained by the mighty Amur River, where Radde and Schrenck carried out their valuable investigations in the fifties of last century.

I resolved, therefore, to spend the rest of the summer and autumn of 1915 in these regions, and made my plans accordingly. That I failed to carry them out in their entirety is a matter of extreme regret; but some useful results were obtained, and some knowledge of the general district gleaned, which makes it worth while setting out in detail the events of the two months spent on the trip.

The exploration of this northern section of Manchuria presents difficulties and problems very different from those experienced in the parts hitherto visited. From all that could be gathered by enquiry, the only easy means of transport would be by steamers plying from Harbin down the Sungari to its

junction with the Amur, and up the latter to Blagoveschensk or Stretinsk, or down to Kharborovska at the mouth of the Ussuri, and on to the sea.

Besides this means of travel there might be a few cart-roads from the river-side towns to others a little inland, but these would almost certainly be impassable at this time of year. Otherwise human labour, at exorbitant rates of hire, would be the only available means of getting baggage, the curse of the explorer, from one place to another. And here I was confronted with the same old problems, the reduction of baggage and the cutting down of weight to the last possible ounce. It will be conceded by the reader that to do any sort of collecting work a certain amount of impedimenta is necessary, and the more ambitious the collector, the more he must carry. Then too, if one is to maintain one's health sufficiently to carry out the arduous work of a scientific explorer, there is a limit to the amount of comforts with which one can dispense. All of which means, simply, that there is an irreducible minimum of baggage, which must be carried on any expedition, if that expedition is to attain its objects. The difficulty arises in deciding exactly what can be discarded and what must be taken.

Through the opportune meeting of an old friend, Mr. F. M. Schroder, an American, who at the time had nothing in particular to do, I had secured a good companion for the project in hand, but his coming meant a certain further increase in the baggage for the party, which would now consist of three, the services of a young Chinese, who understood something of the art of skinning and preserving specimens, having been engaged. I had decided to dispense with servants as a nuisance.

Together we set about the problem of cutting down our baggage, and the net result, after many a sacrifice, was a good 600 lbs., including tent, bedding, clothing for temperate and zero weather, cooking outfit, a few necessary stores, a supply of steel traps, ammunition, preservatives, collecting tanks and photographic material. There was not a superfluous ounce, but many an almost necessary article was dispensed with, in some cases to be sadly needed ere we reached civilization again.

The 22nd of July found us speeding northward on the train which makes connection with the Trans-Siberian express at Harbin, and by three o'clock on the 24th we reached that town. There our passports required the *visa* of the local Russian and Chinese authorities. It was also necessary to get some sort of

jurisdiction. Then there were passages to book on some river steamer, a few stores to purchase, and, of course, calls to be made at our respective Consulates.

The day following our arrival being a Saturday, we found that there was no one at the various offices we called at who had the authority to issue the permits we required, though by great good luck we managed to get our passports stamped. I found out afterwards that no one in Harbin had the authority to give us permits to carry arms in the Amur regions, and as only the authorities in those regions could give us the necessary permits, and as it was forbidden to be in the possession of arms in those regions without permits, it was rather puzzling to know what to do. As a matter of fact, the proper thing to have done would have been to have applied through one's own Consulate in Tientsin to the Governor of the Amur and Ussuri Provinces for the required permits some months before our intended travels in those parts; but, of course, it was now too late to follow this course, and in the end we were advised by a friendly official at the Russian Consulate to proceed on our journey with the letter of introduction we already had from the Russian Consulate in Tientsin, which, he thought, would see us through. Personally I was harassed with doubts on the subject; but decided to try it.

We next discovered that no suitable steamer would be sailing till Monday, so having made the requisite purchases of provisions, and booked our passages, we gave ourselves up to what amusements the town had to offer.

As, however, Harbin does not wake up until seven o'clock in the evening, the time hung rather heavily on our hands, but we wandered about the town looking at the shops, such as they were, and sampling coffee or tea at the various cafés.

Not all at once can one change one's mode of living by turning night into day and *vice versa*. The inner man demands feeding at the old regular hours, and sleep comes not easily in daylight. Nevertheless, with the help of a casual acquaintance, an American, who knew something of the town and its activities, we succeeded in not getting to bed till four in the morning, and, having finally got there, in staying in till noon of the following day.

Our hotel was situated in what is known as the Harbour, where the European population is almost entirely of Russian or Polish Jews, a class very much despised and looked down upon by the so called White Russians. Besides the Harbour section of

the town there is what is called New Town, which might be called the better class business part, and also the Old Town, which is the residential quarter. Then, of course, there is the neighbouring Chinese section, which we did not visit.

Our steamer did not sail on Monday, nor on Tuesday. We were given many reasons for this delay, such as shortage of wood, lack of sufficient cargo and so on, but the real reason, and the only one that counted, was that her captain was ashore undergoing repairs.

According to the guide-book there are forty-four steamers plying between Harbin and various places on the Sungari and Amur, and they are carrying on a profitable business with freight and passengers. In reality, at the time of our visit, there were more like a hundred of these boats on these rivers, of which a number were lying idle, owing to lack of cargo; while the rest were said to be running at a loss. A rate war had sent the cost of transporting freight down to a ridiculously cheap price, which, however beneficial to us, could hardly pay the steamship companies.

We discovered one department, however, in connection with the passenger service that must have been making a huge profit. This was the cuisine. Never have I paid so dearly for such poor food as that supplied to us. Further, we might count ourselves lucky if we got our meals within a couple of hours of the time for which they were ordered. The service, also, was execrable. It turned out, on enquiry that the feeding of, and attendance upon, passengers was let out by the company on contract to Chinese, with the dire results described.

The Muscovite in his dealings with the Chinese is a queer fellow. Treating him with extraordinary good fellowship and camaraderie on the one hand, he is often brutally harsh and unreasonable on the other. The Chinese in return loves the Russian as a butcher loves the sheep he slaughters: he is his means of livelihood. At the same time the intoxication of being treated as an equal by a white man is too much for the lower class Chinese, and he becomes objectionable. He delights to address the Russian in choicely obscene language, calling him by unprintable names. Mentally he heaps opprobrium upon the white man, who, not understanding, takes it all as a sign of good fellowship. The result is, of course, a deplorable lowering in the eyes of the lower class Chinese of the white man's prestige, which is so jealously guarded by other European nationals.

It must be stated in fairness to the Chinese as a race, that as one ascends in their social scale, one finds dignity of bearing and an old world gentlemanliness, that keeps them from descending to the abominations of the lower classes.

But the coolie and the small shopkeeper, the husbandman and the riverman, because they have found, in Russian Manchuria, that to be bold and insolent carries the day, and fills their pockets with good coin, adopt an attitude utterly revolting to Europeans, who are used to the usual politeness that marks the dealings of the Chinese in China with foreigners in general.

The coolies that carried our baggage from the hotel to the boat taking us for Russians addressed us in their usual insolent style, but it was amusing to see their complete change to a deferential manner when I told them that I was not Russian but British, and, as a British, expected the respect due from their class to their superiors.

Our steamer sailed at five o'clock on Wednesday morning. We breakfasted at ten; a disgusting breakfast, badly cooked and badly served, and I was glad to turn from the table, and the insolent familiarity of the waiter, to view the beautiful scenery of the lower Sungari.

And pretty country it was that presented itself to our gaze, rolling hills alternating with smiling valleys, and covered with rich verdure or cultivated fields. Here a crop of beans and there a plot of tobacco told of the richness of the soil. Sometimes in the distance the faint blue outline of hills gave hint of the higher land to north and south. Now and again the low hills would give place entirely to flat marsh; but mostly they rolled on, wave upon wave of green, along the river banks.

Our steamer stopped every few miles to put passengers ashore, or to take some on. We passed but few towns, indeed, San-sing was the only town of any size that we did pass.

From about fifty miles to within twenty of San-sing the country on either side of the river showed a series of somewhat rugged and rather high hills, thickly covered with timber, stretching away inland. This timber, which was deciduous, oak, walnut, birch, poplar and maple being the chief trees, came, in places, down to the water's edge. Apparently the conifers, if there ever were any, had been cut away long before. There were immense piles of cord-wood along the river banks, which the cutters were offering for sale to the passing steamers. It should be stated that

all the steamers plying on these rivers use wood for fuel, just as do the locomotives on the Chinese Eastern and part of the Trans-Siberian Railways.

We did not learn of this belt of promising looking country till it was too late to make arrangements for stopping off there. Our passages had been booked to a point, not far from the junction of the Sungari with the Amur, where farming operations had been started by some enterprising Europeans, to whom we had introductions. From this point, which was on the Hei-lung-kiang—*i.e.* north-bank of the Sungari, we hoped to work inland for a bit, subsequently continuing down the river to the Amur and Ussuri.

San-sing lies at, and a little way up, the mouth of the Mutan Ho, or Peony River, which has its origin in the mountainous area to the south-east of Kirin city, runs through Lake Birien, or Nan Hai, passing the important town of Ninguta, finally entering the Sungari nearly two hundred miles from Harbin. It is one of the oldest towns on the river, and is a comparatively large one, with many fine houses of brick and mortar. There is a considerable amount of shipping along its front.

Below San-sing the country continues more or less hilly, though immense stretches of low lying meadow land begin to occur, especially on the northern bank. These increase in extent, as the hills diminish, till gradually the whole country assumes a flat nature, with but a few isolated hills.

We were disappointed to note that these flat lands, particularly to the north, were more or less flooded, which did not augur well for the success of our enterprise; and when a well-informed Danish gentleman, who was travelling to Nikolaievsk at the mouth of the Amur, told us that he had heard, on good authority, that the whole of the country round the headquarters of the farmers we were going to visit was under water, we began to feel rather gloomy about our prospects. The same gentleman told us that we would be running considerable risk of detention and imprisonment if we ventured upon the Amur without a permit from the Governor of the Amur region. Altogether I began to feel that my project of doing collecting and hunting in the Russian controlled areas was not going to be at all feasible under existing conditions. However, we hoped for the best.

Our steamer ploughed on its eastward course, and it was plain that the whole country was flooded; often the banks of the river were lost to view in the rush of turbid waters.

At last, after winding in and out between sundry small islands and sand-bars, the boat pulled up at a bank, marked by some low huts and a signboard bearing the number 326, and here we landed with our baggage, having arrived at our destination.

Mr. Dagnes Hansen, the manager of the farm, to whom we had a letter of introduction, met us on the shore, and gave us a very hearty welcome, that went far to make up for the attacks of swarms of mosquitoes, by which also we were greeted. We hurried to the shelter of one of the huts, where, from behind wire gauze doors and windows, we watched the departure of our steamer, almost wishing that we had not landed at such an unpromising looking spot.

Later we were invited into the cabin of an old stranded house-boat, where, to the accompaniment of many a sounding smack, and varied expletives, as the mosquitoes did their cruel work, we had supper. Thence a scramble was made to get into bed under the shelter of mosquito nets, where, one by one, according to our various temperaments, and the number of bites we had received, we drifted into troubled slumber, to the high pitched hum of myriads of bloodthirsty monsters of the night, rampaging outside the nets. We had been warned that the flies and mosquitoes were bad, but never dreamed of anything like this, and I for one began to regret that we had ever embarked upon such an adventure. If this was a sample of the great province of Hei-lung-kiang, then, I felt, the less I saw of it the better I should be pleased.

However, by the morning the numerous bumps raised by the poisonous bites received the night before had subsided, and our spirits had risen correspondingly. A stiff breeze was blowing, and the night marauders were, for the time at least, conspicuous by their absence. Mr. Hansen gave us a hearty invitation to proceed to the main farm, some few miles inland, where he promised us a good bath, plenty of good food, and greater security from the attacks of the mosquitoes. Needless to say we accepted this invitation with alacrity, and as we could not get our heavy kit overland, owing to swamps and flood-waters, it was decided that we should take a round-about route by means of a side stream.

After breakfast we put our baggage into a rough sort of sailing boat, of no particular species, and commenced our journey to the main farm, which the promoters of the land-breaking and farming company had fondly called "Oakwood."

It took us four hours to combat the strong current, the result of recent heavy rains, and reach the nearest spot on the side stream to Oakwood. There remained three miles of swampy road to do on foot. Coolies had been sent down from the farm to transport our baggage.

After an hour's tramping we came in sight of the farm, and thinking to find a short cut across what appeared to be dry fields of waving grass, and willows, we soon found ourselves knee deep in swamp. Horse-flies and large yellow mosquitoes assailed us as we disturbed the grass, and the rest of the short journey was torture. But at last we were safe, that is to say, comparatively safe, behind screen doors and windows once more; while our hosts made us welcome with tea and a much needed meal, giving us changes of clothes and footgear, and, best of all, placing a fine bath room at our disposal.

Half an hour later, clothed and clean, we were in a fit state, bodily and mentally, to take in our surroundings, which, being those of many a border station in lands that are being reclaimed by the white man's labour, deserve description.

The originator of the scheme, an American, faithfully seconded by his Danish manager and assistants, was, and is still as far as I know, doing all in his power to reclaim, break, and make fruitful a wide section of low-lying country in the angle between the Amur and the Sungari, which, though in ordinary seasons is high enough to be clear of the rivers, is subject at times to severe flooding. The right to work the land had been acquired at a comparatively low cost, and with Chinese labour, American machinery and their own indomitable spirits and determination, a considerable acreage was being diked in, drained by canals and pumps, ploughed and planted with cereals. A set of one-storied buildings, including living rooms, stables, store-houses, machinery sheds, and even a blacksmith's forge and carpenter's shop had been built on the highest part of the land, where also kitchen gardens supplied the small community of pioneers with some of the necessities of life.

They had met with exceptionally bad fortune in the venture, for Nature had seemed to array her forces specially to meet and defeat their efforts. Thrice in a twelvemonth the land they had painfully cleared and ploughed had been inundated by the fierce flood-waters, and for two summers such crops as they had succeeded in starting had been lost. Half their horses had succumbed to the effects of disease and the attacks of insects, the remainder,

Russian River Steamer stopping for wood fuel, Lower Sungari River.

Schroder making the passage of a swollen stream in a shallow Dug-out, near Samafalo, N. Kirin.

reduced to mere skeletons, having to be kept behind wire gauze doors and windows. Three of their Chinese had died of some mysterious disease, which made it difficult to engage sufficient labour; and finally everybody in the place was subject to the continual attacks of the swarms of insect pests, mosquitoes and horseflies, which gave no peace either by night or day, and drove one to the verge of madness.

At the time of our visit, all work had ceased except that of diking, and that, too, was momentarily threatened by the floods and discontent amongst the Chinese labourers.

I have since heard that they succeeded in diking in their land, and with the use of powerful pumps, wind-driven I believe, have kept it drained, and that success has crowned their efforts and rich harvests have been reaped. Considering the difficulties that faced them, their conquest of the wilderness is worthy of the best traditions of the pioneer.

Others, profiting by their experiences, will doubtless come into the country and open it up still more, but the credit will belong to these sturdy and determined men, who first attempted to develop land that the ubiquitous Chinese settler had passed over as unreclaimable. This is a white man's country, and should belong to white men, but it is at the same time a hard country, where none but the strong can survive, at least till such time as the swamps and marshes have been drained, the flood-waters brought under control, and the million million winged pests stamped out.

Having settled ourselves thus in Oakwood Farm for the time being, we commenced investigations upon the natural history of the surrounding district. Subsequently, as, owing to the floods, it was out of the question to penetrate the hinterland for any distance, we returned to the shore farm, where we had first landed, and put in some time there.

Generally speaking the land, extending from the river's bank inland for at least thirty miles, is low lying and slightly undulating, covered in parts with woods of oak and other deciduous trees, elsewhere with a luxuriant growth of grass, herbaceous plants, and willow-withies. In places there are shallow creeks, along the banks of which grow dense jungles of reeds. It is on the higher parts that the oaks, poplar and birch grow, interspersed with dense patches of hazel-scrub and other shrubs.

The fields are dotted in summer with yellow day lilies, larkspur, monk's-hood, valerian, vetches, clover and Canterbury-bells,

as well as numerous cruciferous, umbelliferous and composite flowering plants. I also secured specimens of the peculiar creeper with bell-shaped flowers, known to science as *Codonopsis silvestris* Komarov.

We made several excursions with our shotguns, securing, of edible birds, quails, snipe, and duck, and, of other species, wagtails, buntings, warblers, magpies, hoopoes, sparrows, nightjars, and hawks. The presence was noted of the golden oriole, cuckoo, a large eagle, kite, crows and various waders, all, apparently, breeding in the district. Terns, and gulls were also seen, and a specimen of the long-winged tern, (*Sterna longipennis*, Nordmann) was secured. An interesting game bird that we saw, but, unfortunately did not secure, was the black-cock, doubtless belonging to the Ussurian subspecies *Lyrurus tetrix ussuriensis* Lorenz. Said to be comparatively plentiful in the late autumn and winter, we saw but one specimen, a fine cock bird, which was put up from a half-demolished copse of small oak trees. Pheasants, also, were said to be plentiful here in the winter, though we saw no sign of them. Doubtless the floods had a good deal to do with our not seeing more birds than we did.

In the matter of small rodents and other mammals our traps yielded specimens of the common rat, chipmunk, field mouse, redback vole, black shrew, brown spider shrew, and mink, not one of which showed any marked difference from those secured in the Kirin forests or even as far south as the Yalu. This sameness in the mammals over wide areas is one of the most noticeable characteristics of the Manchurian fauna, and one in which it differs very markedly from neighbouring North China.

A small rodent secured for the first time in these parts was the brown striped hamster *Cricetulus fumatus*, Thos., which, hitherto, had not been represented in my Manchurian collections. It is the Manchurian representative of the little grey hamsters, *C. andersoni* and *C. griseus*, of North China and Inner Mongolia. In size, appearance and habits it resembles these species, but is of a browner colour than either, having a black stripe down the middle of the back like *C. griseus*. Specimens of this interesting little mouse, or rat, were secured only at the shore farm, where, however, ants and beetles were so bad that not a single perfect one was obtained.

One day, while at Oakwood, I was passing a deep pit, which had just been dug, when I noticed a small brown shrew, belonging to the species *Sorex annexus*, dart into a crevice. I at once set

a trap baited with a piece of meat near the crevice and sat down to watch. Presently out came the shrew, and after running about with its pointed nose sniffing the air, suddenly rushed at the trap and in a frenzy began gnawing at the bait. The trap should have sprung immediately, but had evidently jammed, so I jumped into the pit and readjusted it, while the shrew darted back into the crevice. Before long the little animal was out once more, and after scenting the air with his up-turned, quivering nose darted at the trap again. There was a snap, a shrill squeal, and the trap began to dance about as the shrew wildly kicked its tiny legs in an effort to get free. But soon it was still, and I had a nice specimen of a not very common little animal.

I have noticed before, when it has been my good luck to actually see a mouse or other small animal enter a trap, how they hover about sniffing the air for a bit, and then, suddenly, casting discretion to the winds, make a quick dash for the bait.

In the field behind the shore-farm we found some old piles of flax stems, left over from the year before. These turned out to be very fruitful trapping grounds. They were riddled with holes and tunnels, suggesting murine occupation, so we set our traps, never failing to secure something.

To overcome the attacks of insects upon our specimens we tried the plan of visiting the traps several times during the night with a lantern, but without much success. The insects, or what ever it was that did the damage, appeared to attack the specimens the moment they were trapped, and always escaped detection. I am inclined to think that the chief culprits were carnivorous beetles of the genus *Carabus*, but doubtless some of the specimens were destroyed by their own kind.

Oakwood and the shore farm were simply over-run with the large common, or brown, rat. The granaries were full of them, and it was the easiest thing in the world to catch half a dozen or so of them every night. We caught them in the living rooms, and stables, along the river's bank, on the dikes, everywhere. Many were of an unusual size, far larger than anything I had ever seen in China. Of a rich brownish colour, the fur of this species is often very thick and soft, almost equal to that of the musquash, whose place, by the way, this rat seemed to have usurped. Nowhere could I find even a sign of a true water-vole, in spite of the fact that Schrenck records one species from the Amur region. The nearest thing to it that I came across was

the great dark reed-vole, *Microtus pelliceus*, Thos., specimens of which I got on the Upper Sungari.

I could not quite understand the presence of the red-back vole, *Craseomys regulus*, Thos., at the shore farm, for hitherto my experience of this species had led me to suppose that it was a purely wood or forest-inhabiting animal; but doubtless there had been a certain amount of timber in this area before the farmers came and commenced clearing the ground for cultivation.

The young mink that we secured was taken at the mouth of one of a series of burrows, that from all appearances must have been established for some time. The earth at this spot had been worked up into a low mound, into which four tunnels dived at sharp angles. From the mouths of the tunnels small, well-beaten paths led into the jungle of grass and weed that grew on all sides. The conditions of the paths showed plainly that the burrows were occupied, and the young mink in the trap suggested that the occupants were a family of these animals. Nevertheless, I was not satisfied that the burrows had been excavated by the minks. They reminded me of the burrows of the pika (*Ochotona*), of which genus Schrenck records a species and several varieties from the Amur.

During our stay at the shore farm we made a good collection of fish. We had brought fishing rods with us, and with these we caught some catfish, gudgeons, bream and bleaks. The Chinese with a clever cast-net caught carp of various kinds as well as the Chinese perch or bass, the serpent-head, notch-jaw, bitterling, roach and minnows.

The rapid rising of the flood-waters caused large numbers of carps and wels to leave the river and spread inland over the fields and meadow-lands. We discovered this, quite by accident one day. A number of coolies who were working at the dike, seized the golden opportunity, and, leaving their work, commenced a grand round up of fish. It was a most amusing sight to see them diving into the deep grass after the fish. One would be seen sprawling flat on his stomach in an endeavour to pin down some unusually large carp, while another would sit down suddenly to head off with the bulky end of his person, an escaping wels. Sometimes an excited coolie might be seen with a fish in each hand and another in his mouth. In less than an hour we had caught exactly two hundred and thirty-two fish, ranging in weight from a few ounces to a couple of pounds. The fun might have gone on indefinitely, for there was no limit to the number of fish

hurrying inland with the slowly rising waters, but the coolies were peremptorily ordered back to their work by the farm manager, who was anxious to keep the water out of the enclosed land.

One day a small specimen of the Manchurian pike was caught, which brought the total number of different kinds of fish secured up to seventeen.

We encountered no reptiles here, though the common toad and frog were obtained. Insects, especially flies and mosquitoes were very plentiful. There were four species of horsefly, none of which hesitated to attack human beings. It was to the bites of these insects that the deaths of the three coolies at the farm were attributed by the natives. The victims in each case received a bite on the head, which caused severe, but painless, swelling. Death followed in from three to five days, the chest and stomach swelling up badly. We were told that no case either amongst the horses or men ended in recovery. Throughout the whole region the Chinese farmers had lost all, or nearly all their stock. I am not satisfied that the death of horses and coolies was due to horse-fly bites, but give it as the opinion of the natives. On the other hand it is quite feasible to suppose that either the horse-flies or mosquitoes were the carriers of disease or poison from one victim to another.

Of mosquitoes we noticed some five species, a large yellow one in the marshy areas being particularly poisonous. By far the most common was a black species, spotted with white, and armed with a very formidable proboscis. There were besides a brown one of about the same size as the spotted one, and two smaller forms. They all stung most unmercifully, giving us a very bad time.

Butterflies were scarce, the only common species being a large black one, a tortoise-shell and a blue fritillary.

Spiders of many species were particularly abundant, doubtless finding a rich sustenance in the enormous numbers of flies. Beetles, on the other hand, were remarkably few, doubtless as a result of the floods.

Soon after returning to the shore-farm from Oakwood, I went down with an attack of dysentery, which added greatly to my discomfort. Unfortunately I had nothing to take for it, and so had to resort to the starvation cure, which is bad enough under the best of circumstances, but which, situated as we were, was very nearly the end of me. However, thanks to Providence and a hardy constitution, I recovered in due course.

When I was able to get about again I decided to quit this district and try somewhere else; and so one day in the company of two of the Danes of the farm made a trip across the river to the town of Fu-chin Hsien to enquire into the conditions of the country to the south.

I was disagreeably surprised at the extent of land under water, and as we drifted with the current, over what now appeared to be a vast lake, it was difficult to avoid a feeling of helplessness.

A big river in flood is a thing of awe. When the shining water stretches, swirling and eddying, as far as the eye can see, bending the willow tops to their will, and straining the stout trunks of oak and poplar till they creak again, carrying death and destruction with them in their mad onward rush toward the sea, one realizes how puny is man's strength compared with the forces of nature. Twice during our stay at the shore-farm, the water, rising steadily, had threatened to overwhelm us. It had flowed over the bank to the very dike, which alone saved us. We went to our couches at night not knowing if we should live to see daylight. That mighty volume of water, whence came it? How many creeks, and streams, and brooklets had gone to swell its flood? What torrents of rain in the mountain fastnesses beyond must have fallen ere its mile upon mile of brown waste could have been formed to drown the once smiling flat-lands and tear at the base of bluff and hill that formed its uttermost boundary?

The Sungari was in flood with a vengeance. It was fifteen feet above its normal level, which meant that the low banks below San-sing, which we had noted on our way from Harbin, were well under water; while in many places the overflow had travelled far inland, filling up dips and hollows, making of what but a few short weeks before was rich meadowland, great lakes and marshes. Many a fair farmstead had vanished, its owner left homeless and ruined to face the fast approaching winter.

Settlers of fifteen years standing in the country had never seen such a flood; older inhabitants said they had seen nothing to beat it in fifty years. But for the fact that, as yet, much of the rich land had not been settled, distress would have been rife, as, indeed, it was elsewhere in Manchuria, through the unprecedented rains and consequent flooding that summer.

South of Fu-chin Hsien a mighty lake, a day's journey by sailing boat across, had formed, and stretched to the south-east, obliterating the network of streams forming the upper basin of a river called the Nao-li Ho. On the north bank of the river the

flood-waters could be seen stretching to the horizon, and the places where creeks leading into the river had been were marked now by swift currents of water flowing inland.

Every now and then, bloated and poisonous, a dead horse or cow might be seen floating down the main stream.

The steamers and boats bound down stream sped by at incredible speed; those heading up stream seemed but to creep, fighting yard by yard, sometimes almost brought to a standstill by the rush of waters opposed to them.

Indeed, a small boat, unless there was a favourable wind, had little chance of making headway at all. It took us six hours to get back to the shore-farm from Fu-chin Hsien, during which, after the wind gave out, it took the strength of four sturdy men, poling, where possible, and rowing, to get our light, twenty-foot punt up stream a distance of not more than six miles.

I obtained but little encouragement from my visit to Fu-chin Hsien, but, after a consultation, we decided to leave the farm and put up for a day or two in the town, where by dint of further enquiries we might obtain sufficient information to enable us to come to some definite decision about our future movements.

Having crossed the river once more with our whole outfit, we landed at Fu-chin Hsien, and were looking for reliable coolies to carry our baggage to an inn, when a tall rather well dressed Chinese stepped up and offered his services. He turned out to be a Tientsin man, and as the taxidermist knew his family, we allowed him to take charge of our belongings, which he did to our entire satisfaction. Subsequently he asked us if we did not want to hire a man to go with us. On being told that we did not need one, he asked if we would not take him on just for his keep and expenses till we got back to Tientsin.

He was stranded, he said, and could not get work where he was, and had the awful Manchurian winter to face unless he could get back to Tientsin. Remembering the fate of the poor wretches of Chinese, who get stranded up in this country during the winter, one could not help feeling sorry for the fellow; so, casting our bread upon the waters, so to speak, we took him on as general servant. It may as well be stated at once that we had no reason later to regret our action.

As will be seen in the next chapter we met with so little encouragement to continue in these regions, that we decided, at last, to give up the project of visiting the Amur, returning in-

stead to Harbin, from which place if nothing better offered, we would go to I-mien-p'o once more.

This, in effect, was what we did. A small steamer carried us and our belongings up stream to Harbin, and thence we took the east-bound train and reached I-mien-p'o in due course, where Mr. Wischniakowski, and his charming wife, not to mention Nicholai, Naribia and Filatoff, my companions of the year before, gave us a very hearty welcome.

CHAPTER XX.

The Fish-Skin Tartars and Other People of the Manchurian Region.

CHAPTER XX.

The Fish-skin Tartars and other People of the Manchurian Region.

Though this book does not profess to deal in more than the most transient way with the political and economic aspects of the Manchurian region, yet, being somewhat of a travel-book, it could hardly be considered complete without some account of the various peoples, past and present, that inhabit the country with which it deals.

Past explorers and writers of note have done much to further our knowledge of the subject, and have given faithful accounts of the people of the country as they found them in their day; but one feels that Manchuria has changed so rapidly in the last few decades, and, in the matter of her population, so fundamentally, that it would be almost as wide of the mark to judge of conditions in this respect to-day from the works of these authorities, as it would be to base one's ideas of the inhabitants of present day Canada upon the accounts of the early explorers and pioneers in that country.

With the steady influx of settlers, agricultural, industrial and commercial, from neighbouring China, Japan and Siberia, large areas that once formed the home of a comparatively few more or less primitive Tartars, remnants of a once powerful race that supplied the hordes that conquered China, have been flooded by aliens. Even in the more populated regions, inhabited by the more numerous Manchus, the composition and proportions of the population have been greatly altered, while the population itself has been enormously increased.

Extensive areas of forest land have been opened up and brought under cultivation. New towns and cities have sprung up, where but a decade ago, all was wilderness.

By far the greater proportion of immigrants have been Chinese, chiefly from the provinces of Chihli and Shantung, and to-day Manchuria from the Yalu to the Amur may be considered as a large and flourishing Chinese colony. This in spite of Japanese domination and attempts at colonization.

The Manchus, who formed the larger part of what might be called the indigenous inhabitants, have, in recent years, been practically overwhelmed by this great wave of immigrant Chinese, till the traveller to-day scarcely meets with any trace of them. Almost is their identity gone, nor, with the way the two races have mixed, and are still mixing, is it likely to persist very far into the future. As far as can be judged from travels in the rural districts, the only external trace now left in Manchuria of the Manchus is in the dress of the women, and, strange to say, in making enquiries, it was found, that of the women wearing the characteristic Manchu head-dress, and enjoying the freedom of unbound feet, most of those encountered in Fengtien and Kirin were actually not Manchus but Chinese, whose ancestors, early settlers in the country, had adopted the Tartar dress in order to conform to the fashions of the country, and who still clung to those fashions.

It would seem, from the writings of historians, that part of Manchuria, the south-west, has been occupied by Chinese for a great many centuries, though from time to time it was wrested from their control by conquering Tartar races. It also appears that a large part of South Manchuria at one time belonged to Corea, while the natives of that country spread as far into Fengtien as the important city of Kai-yuan. To-day the Corean boundary coincides with the left bank of the Yalu River, though there are still many Coreans in Kirin and Eastern and South-eastern Fengtien.

Since the war between Russia and Japan, South Manchuria has come under the influence of the latter country, and has received a large number of Japanese immigrants, who, in a way, replaced the previous Russian population. The latter has retreated northward, and is now to be found in strength only along the northern railways, and in the Amur region, where the last remnants of the old Tartar tribes, other than the Manchus, are to be found.

In order to assist the reader to understand the question of the population of Manchuria, it seems advisable to give a brief outline of what is known of the history of that country.

It begins by showing Manchuria peopled by a race of savages, living in the forest, wearing no clothes, and ignorant even of the art of cooking. They were divided up into clans or tribes, and waged a constant internecine warfare amongst themselves. Their intercourse with the outside world was only that of feudatory raids. This age of savagery goes back in time to at least a thousand years

before the Christian era; though even then China was a well established, and highly civilized state.

Bit by bit these early tribes of Manchuria emerged from their state of absolute savagery, and became comparatively civilized, though, to the highly cultured Chinese they were still barbarians of the lowest type. As they progressed in civilization the more southerly ones, for some reason, possibly through coming into closer contact with the Coreans and Chinese, outstripped their northern relations, and at last about the year 700 A.D. they established a kingdom called the Bohai, which occupied Central Manchuria from the Liao to the Pacific. This kingdom was maintained till about 900 A.D., when it was conquered by the Kitans or Cathayans, a powerful Tungusic race, which occupied North China and Western Manchuria, and whose influence spread right across Asia as far as Persia, and southward into Central and Southern China. Corea also acknowledged the suzerainty of the Kitans.

The new dynasty was known as the Liao, or Iron, and during its existence Manchuria reached a high state of civilization.

Later the Nuchens began to develop power, and finally in 1117 overthrew the Kitans, establishing the Kin, or Golden, dynasty. These Nuchens, it is supposed, originated in a district on the south bank of the Lower Sungari, to the west of the Hurka River. The dynasty they formed may be known as the early Manchus. It occupied the throne of China till driven out by Genghis Khan, who, with his Mongol hordes, established a mighty empire, known in Chinese history as the Yuan.

During the Ming dynasty, which replaced, in China, the Yuan, the Manchurians seem to have regained their independence, but their former glory was gone, and they relapsed into a state of savagery once more.

It is not easy to understand how this came about; but it has been suggested that cultivation had been neglected during the Yuan dynasty, as many of the Manchurians had followed the Mongols to share in the despoiling of China, those remaining resorting to hunting and fishing as a means of livelihood.

However it came about, the fact seems certain that during the Ming dynasty Manchuria was populated once more by small clans and tribes of savages, not so primitive, perhaps, as their early ancestors, but savages nevertheless, who fought each other, and raided their neighbours the Chinese and Coreans.

Then began the events which finally culminated in the coming into power of the later Manchus. According to the Manchu mythology of the origin of their dynasty, a certain Aisin Gioro was

miraculously born of a heavenly maiden, who conceived through eating a fruit placed on her clothes by a magpie while she was bathing in a pool. This took place on the slopes of the Chang Pai Shan, the Ever White Mountain, which on this account was held sacred by the Manchu Emperors. Subsequently the virgin mother returned to heaven, while the boy was found and raised by a fisherman. Aisin Gioro, however, was murdered by his people, only his youngest son, Fancha, escaping. This was effected by the aid of a magpie, which, perching on his head as he ran, made his pursuers think he was a tree-stump. Thus the magpie was adopted as the sacred bird of the Manchus. Crossing the Chang Pai Shan, Fancha fled to a place called Hotuala, where he settled. From him was descended one named Nurhachu who became the founder of the Manchu dynasty. So runs the legend.

Whatever his origin Nurhachu certainly did exist, and at the head of his tribesmen attacked and conquered the tribes and clans about him. In time he gained control of the whole of Kirin, and even conquered the tribes further north as far as the Amur, till, at last, he became so powerful, that he attacked the Chinese Empire, as well as Corea. He took Mukden from the Chinese and made it his capital. He did not succeed in subduing China, however, and in 1619 died after a remarkable career.

He was succeeded by his fourth son, T'ai Tsung, or T'ien Tsung, who followed his example in making war on the Ming Empire.

T'ai Tsung failed to take the Ming capital, Peking, though he came very near it. By cultivating the friendship of the Kortsin Mongols, he was able to get into China other than by the way of Shan-hai Kuan, which was too strongly fortified and held by the Chinese to allow of his capturing it. He harried Shansi, Chihli and even Shantung, finally returning to his capital in Manchuria, where he died in 1643.

He was succeeded by his son Shun Chih, who at the time was only a child, his uncle Prince Durgun becoming regent. The following year, 1644, Durgun was called to the assistance of the tottering Ming dynasty—a rebel named Li having actually captured Peking—by a general named Wu San Kuei, who held the fortress of Shan-kai Kuan. With this request the Prince complied, and forthwith entered China, joined forces with Wu San Kuei, marched on Peking, defeated the robber Li, and, once having thus reached the goal of Manchu ambition, decided to stay. Thus Shun Chih became Emperor of China, and the capital of the Manchu Empire was transferred to Peking.

It is at this point that the past history of Manchuria begins to bear most strongly upon its present population.

So rich was China that great numbers of Manchurians left their homes and settled in China, while, owing to the need of keeping the latter country in subjection, their Emperor scattered them far and wide. Thus every important Chinese city had within its walls a smaller city, occupied by a Manchu garrison.

Meanwhile Manchuria itself was greatly depopulated; especially as reinforcements for the garrisons in China were continually being drawn from the Tartars that had remained behind. Subsequently Chinese settlers began to reoccupy the plains, and many of the larger river valleys, which marked the beginning of an influx from China that has never ceased; though for long it was discouraged by the Manchu Government.

Just about this time the Russians, who had gradually extended their conquests eastward through Siberia, began to come into contact with the Manchurians on the Amur, which ended in 1689 in the signing of a treaty defining the northern and north-western boundaries of the Manchu domains as the Yablonoi Mountains and the Argun and Gorbitza Rivers respectively.

Steadily the Russian power grew, and what are now the Amur and Primorsk provinces of Eastern Siberia—*i.e.* the areas between the Yablonoi Mountains and the Amur, and between the Ussuri and Tumen Rivers and the Pacific coast—came, first under her influence, and then actually into her possession in 1858.

From this date on Russia's influence increased till it was paramount throughout the whole of Manchuria, especially after the Boxer rising in 1900. It is probable, that, in the end, the country would have become another of Russia's provinces on the Pacific, but for the fact that in 1904 Japan challenged her supremacy, and, after defeating her armies in the field, and annihilating her fleet, occupied the railways as far north as Ch'ang Ch'un, as well as Liao-tung Peninsula, thereby driving all Russian influence out of South and Central Manchuria. Russia maintained practical control of the Amur, and Sungari Rivers, and the Chinese Eastern Railway till her disintegration in 1917, since when the Chinese have assumed control of the latter, though Japanese influence has greatly increased in these regions generally.

Meanwhile let us go back a few decades in order to consider the state of the wilder parts of Manchuria.

Even after the consolidation of the various tribes under Nurhachu, the Amur and Sungari tribes must have continued in a semi-savage state, for as late as the middle of the 19th century,

it was deemed unsafe for outsiders, including Manchus as well as Chinese and Europeans, to visit their settlements. Indeed, in 1845, M. de La Bruniere, a Roman Catholic missionary, was murdered by the Giliaks (? Goldis) or *Ch'ang-mao-tzu*, while in 1850 M. Venault, who went to enquire into the former's death, had great difficulty in getting any natives to accompany him on his perilous undertaking.

But in the last sixty years this country, which was considered unsafe for even Chinese, has become almost thickly populated by the latter, who are rapidly ousting the primitive Tartars.

Once savage, and able to hold their own, the Tartars are now reduced to a few shiftless hunters and fishermen, and it seems that ere long they will disappear altogether as a separate and distinct race.

To-day the Tartars of the Manchurian Region are divisible into a number of groups as follows:—

1. The Solons, occupying the north-western part of the province of Hei-lung-kiang (= Solonen of Schrenck).
2. The Sibos, occupying a district to the west and south of the Solons, including a portion of North-western Kirin, and adjacent areas of East Mongolia. These appear to be identical with the Daurian Mongols, the area they occupy being called Dauria by all the earlier Russian and German writers, (= Daurien of Schrenck).
3. Various tribes down the Amur Valley itself, often called by the Russians Gilyaks and even Goldis and Orotchons. Schrenck gives these tribes of the Amur, working from the upper reaches to the mouth, as:—
    a. Orotschonen, head waters of the Amur.
    b. Managirn, above Blagoveschensk.
    c. Biraren, below Blagoveschensk in the Bureija River basin.
    d. Kile, north of the Sungari mouth.
    e. Oltscha, Lower Amur.
    f. Samagirn, north of Oltscha.
    g. Negada, north of Samagirn.
4. The Goldis, occupying the Lower Sungari, and the Amur from its junction with the Sungari to beyond the mouth of the Ussuri, as well as the whole of the Ussuri Valley. (= Golde of Schrenck.)
5. The Orotchis, occupying the whole of the coastal regions from south of the Oltschas to Vladivostok. (= Orotschen of Schrenck).

6. The Gilyaks, occupying the regions round and to the north of the mouth of the Amur, as well as the northern half of Saghalin Island. (= Gilyaken of Schrenck, who gives the Oroken as scattered amongst the Gilyaks of Saghalin in small groups. These last have probably become absorbed by the Gilyaks.)
7. The Reindeer Tungus, occupying the whole area north of these other tribes in the northern parts of the Amur basin from the Okhotsk coast westward. (=Reinnthier-Tungusen of Schrenck).
8. The Manchus, occurring in Kirin Province, though well scattered amongst the Chinese, and in the larger and older towns of Fengtien.

It may be noted that the Korchin Mongols occupy that area of East Mongolia that lies on the western boundary of Fengtien Province, and probably extend to a certain extent into the latter; while the valley of the Tumen River, up to Vladivostok, which is partly in Russian territory is occupied by Coreans.

The Chinese name *Yü-p'i Ta-tzu*, which means Fish-skin Tartars is a loose term applied to the Goldis, Giliaks, Lower Amur, and Coastal tribes; while the Russians frequently refer to all these tribes indiscriminately as Gilyaks, which has led to a good deal of confusion amongst travellers, especially of recent years, in allocating the areas occupied by these several tribes.

The somewhat euphonious name of Fish-skin Tartar is derived from the fact that these people were up to within recent times in the habit of wearing clothes made from the skins of the *Tamara*, or *Tamaha*, a group of salmon known to science under the generic name of *Onchorhynchus*, that occur in the Amur and Sungari in great numbers during the summer and autumn.

Though I did not see any of these fish-skin garments, I have been told on good authority that the Tartars occupying the region at the mouth of the Amur still use such clothing. It is well known that the Eskimos of Alaska also use fish-skins in the manufacture of clothes, as also do the natives of Kamschatka and the Behring region.

Another Chinese name for some of these primitive Manchurian tribes is *Ch'ang Mao-tzu*, which mean long-haired. This name goes far back into history, and is much older than *Yü-p'i Tatzu*. It appears to have dropped out of use, however, and to-day the commonest name by which the Chinese call the Tartars is *Lao Tatzu*, or, simply, Old Tartars.

It were unwise to make the statement that Manchuria and neighbouring regions formed the original home of these Turanian races, but it may safely be said that their occupation of this general area goes back to great antiquity, at least to a time before there was anything in the nature of historical record, and, further, that in historical times this country has been occupied without interruption by one great branch of the Turanians, to which has been given the name of Tungus.

An interesting point to note in this connection is that there is little doubt that these tribes are related to the North American Indians. From the work of a recent expedition, carried out on behalf of the Smithsonian Institution, in these parts and Eastern Asia generally,* it has been found that the Yenesei Ostiaks, the Abacan Katchinci, and related groups, as well as the Selenga Buriats, the Eastern Mongolians, the Thibetans, the East Siberian Oroczi (Orotchis) and the Saghalin Gilyaks show the persistance of an older race than the Mongols and Chinese, and that it was from this older race or stock that the offshoot, so-called Mongolo-Americans sprang. All the Amur tribes must, of course, be included as present day representatives of this older stock, and, if history is to be trusted, their relations the Manchus as well.

Not only is there a strong physical resemblance between these people and the American Indians, but their tents or yurts, canoes, and other belongings show a close resemblance, not to mention their customs, religion, and mode of life.

This fact endows with special interest the Tartars of the Manchurian Region, and one regrets that much more is not known about them, their origin, and history.

E. H. Fraser, writing in the Journal of the China Branch of the Royal Asiatic Society, 1891-1892, what he calls a considerably abridged translation of the work of Mr. V. P. Margaritoff, gives some very interesting details of the coastal Tartar tribes, the Orotchis, under the general title of the Fish-skin Tartars. He gives accounts of their hunting, their praying to *Anduri*, the Supreme Being, to assist them in the chase, their Shamanism, and their folk-lore, which remind one continually of similar accounts of their relatives across the Pacific.

* "Remains in Eastern Asia of the Race that Peopled America" by Dr. A. Hrdlicka, Smith. Misc. Coll. Vol. 60, No. 16.

The romance to us of these primitive Tartar tribes is very intense in its appeal. Who are they? What are they? What is their origin? are questions that immediately present themselves, and demand an answer; and the reader must pardon me if I make a somewhat hazardous excursion into the realms of archæological anthropology in an attempt to supply that answer.

To discover the origin of the present day Amur and Manchurian Tartars it is necessary to hark back through historical times, through the pre-historical Neolithic age, to the time of the "Reindeer Man" of the later Paleolithic age, and there, in that dim and distant past, we may find the ancestors of our Fish-skin Tartars, of our poor Orotchi hunters of the Primorsk coast, of our more sturdy Gilyaks of the Amur mouth and Saghalin Island, living almost exactly as these, their descendants, were when the Russians first found them a few centuries ago, and as some are living even to this day.

These primitive people, together with the North-American Indians and Eskimos, some of the Buriatic Mongols, the Reindeer Tungus, and the Yenesei Ostiaks, are, literally, present day "Reindeer Men," such as occupied Europe before the advent of Neolithic man, our own ancestor.

This is a bold statement to make, and one is fully aware that in making it one is challenging some of the most cherished opinions and theories of many eminent anthropologists; for such a theory as a Crô-Magnon ancestry of the present day Mongoloid races has consistently been combated ever since it was first put forward by Bruner Bey, though it should also be stated that it found its supporters as well.

But what are the facts of the case?

First of all we have the discovery in certain caves in Europe of human remains of great antiquity, which—to quote Dr. W. J. Sollas in his book "Ancient Hunters"—"establish the existence of two different races which occupied the hunting grounds of Europe in Aurignacian times. One of them is represented by the giants of Crô-Magnon, the other by the little people of the so-called Grimaldi type."

Supposing we examine these Crô-Magnon remains—the Grimaldi type need not concern us here, for it is thought that it represents a race akin to, if not actually ancestral to, the present day Bushman of Africa—and see what results we can arrive at.

Taking first the culture of the Crô-Magnards, as they have been called, as shown by implements and mural drawings found in the caves. We gather at once from these, and from the association of the latter, the implements, with the remains of certain animals in the floors of the caves and rock shelters, that the Crô-Magnards of the later Palæolithic epoch were nomadic hunters (not to be confused with the nomadic herdsmen of a later period), who lived on or near the fringe of the great southward extension of the North Polar ice-cap, at a time when the prevailing conditions of Europe were similar to the "steppe" conditions of Central Asia and Siberia to-day, with a probable increasing tendency towards an invasion of forest conditions. The wild horse, very similar to the present day wild horse of Western Mongolia (*Equus przewalskii*) and the small Mongol ponies of such places as the Ordos Desert, and the bison, very similar to the present day bison of the Lithuanian and South Russian forests, appear to have been the chief animals hunted; though there is ample evidence to show that the wild boar, the chamois, an antelope, the ibex and the stag were also hunted. The mammoth and more especially the reindeer were hunted at a later date during a return to "tundra" conditions, with a colder climate (the Magdalenian period), and it is owing to the large number of engravings on horn and other materials of pictures of the reindeer, showing how important the reindeer was to these Magdalenian men (later Crô-Magnards), that they have been called the "Reindeer Men," and the age in which they lived the "Reindeer Age."

Not only were these men hunters, they were fishermen too; though not in the least after the manner of our present day fishermen. They did not go down to the sea in ships and fish with nets, nor is it certain that they fished with line and hook, though certain implements found in deposits of Magdalenian age have been explained as fish-hooks. They speared, or harpooned the larger fish, such as salmon, with which their rivers probably abounded; and so we find in cave deposits that represent later Magdalenian times, barbed harpoons, closely similar to those used by Eskimos and the primitive Tartar tribes of the East Siberian coasts to-day. From the discovery of certain bone implements with holes in them in Magdalenian deposits, which bear a close resemblance to the arrow straighteners of present day Eskimos, it is argued that these Crô-Magnards had bows. Indeed drawings on the cave walls strongly support this belief.

Turning to the present day Mongoloid races, what do we find? We find that they are divisible into three main groups as regards their cultures, namely, (1) those, such as the Chinese, that have developed a more or less high state of civilization, and have given up, to a considerable extent, the pursuit of such occupations as hunting and fishing, (2) those, such as the Eskimos, and the primitive Tartar tribes of Siberia and the Amur, that still depend, or did until comparatively recently, almost entirely upon the chase for their livelihood, and (3) those, such as the present day Mongols, and Thibetans, who have become herders, their herds, however, consisting as much of horses or ponies as of cattle and sheep. In this particular they differ from the Aryan nomadic herders of about the dawn of European history, the ancestors of our present day European races, who did not have the horse, but in its place the ox, and agree with the Magdalenians, to whom the horse meant much. To this day the Mongols are essentially "Horse Men" in exactly the sense that many of the East Siberians are "Reindeer Men."

Of these three groups the second is the one that chiefly concerns us here, for they seem to have persisted in the primitive mode of living that characterized the Crô-Magnards, right down to the present day, borrowing but little from the more advanced cultures and civilizations that developed throughout Europe and more southerly Asia. They still hunt the bear and the reindeer, or the stag, and the roe, the wild boar, and other animals with the bow and arrow (though some of them now use guns); they still harpoon the larger fish of the rivers along which they live, and, though they no longer live in caves or rock-shelters, many of them in winter live in dug-outs of some kind or another. They fashion clothes from the skins of animals and fishes, using sinews for thread, and in some cases bone needles. Some of them use bone implements to a very considerable extent.

This theory that the more primitive Mongoloids are present day representatives of the Aurignacean and Magdalenian Crô-Magnards is not a new one, as the following quotation from Sollas' work, already cited, will serve to show.

"At an early period in the study of Palæolithic remains observers were led by the presence of the cold-loving species of the tundra to look to the Arctic regions for the surviving representatives of reindeer men. Bruner Bey was one of the first to identify the Magdalenians with the Mongolians, though on somewhat insufficient grounds. He was followed by Hamy, who asserted that

it is solely among Arctic people, Lapps, Eskimos, and Chuckchis, that we find the same customs, weapons, and implements as those of the Magdalenian age. These races, he remarks, continue down to our own days, in the circumpolar regions, the age of the reindeer as it existed in France, Belgium, and Switzerland.

"A similar view was subsequently expressed by Dupont, who pointed to the Eskimo as the one race which makes so close an approach to the Magdalenian in the character of its art, implements, and mode of life, that we may fairly say the age of the reindeer still continues in the Arctic regions. A little later the same opinion found an ardent supporter in Prof. Boyd Dawkins, who suggested that the Magdalenian had followed the reindeer as these had followed the melting ice sheets in their retreat to the north."

That the theory has been strongly contested Prof. Sollas shews very clearly. It was opposed by Laloy, H. P. Steensby and Joseph Déchelette. Nevertheless Prof. Sollas in giving a succinct account of the Eskimo, his physical characteristics and culture, shows how closely similar he is, first in his culture to that of the Magdalenian age, and secondly in his physical characteristic to one of the Magdalenian races, namely, that represented by the skeleton of a man found near Perigueux in the commune of Chancelade.

Having given comparative measurements of the skeletons and skulls of this specimen and a recent Eskimo he sums up:

"The evidence could scarcely be more definite; the osteological characters of the Eskimo, which are of a very special kind, are repeated by the Chancelade skeleton so completely as to leave no reasonable doubt that it represents the remains of a veritable Eskimo, who lived in Southern France during the Magdalenian age."

As to how the Eskimos acquired their present distribution the same authority, taking into account all the facts of the occurrence during certain geological epochs of land connections between Europe and Asia on the one hand and North America on the other (namely, the so-called Icelandic Bridge, which stretched from Europe to North America previous to Miocene times, or if it existed as late as Pleistocene times, had probably broken down and become submerged before the Magdalenian age, and the bridge that stretched across the present day Behring Sea and North Pacific, usually called the Miocene Bridge, which certainly lasted into Pleistocene times before breaking down, and which was used, as their fossil remains upon the North Pacific and Behring Region

islands show, by such animals as the mammoth, the musk-ox, the reindeer, the horse, the elk, the stag, the bears and the bison to pass from Asia into North America), comes to the conclusion that it was by way of Northern Asia and the Miocene Bridge that the Eskimos reached North America. But not alone did the Eskimo make this migration: other Leiotrichous (straight-haired) people apparently followed close on their heels; and who is to say that, if the straight-haired Mongoloid Eskimo, with his Magdalenian culture, his dependence upon the chase, particularly of the reindeer, was driven by pressure of an invading pastoral Neolithic people, or by a warming up of the climate and consequent northward migration of the reindeer from Europe, through Asia to North America, the other straight-haired Mongoloid races, or rather the ancestors of such as the American Indians generally, the present day primitive Tartars of Siberia and the Amur, and even the Mongols, Thibetans and Chinese, did not acquire their present distribution by one or other of the same means.

Once more let us turn to Professor Sollas' account, for quoting which at such length I make no apologies to my readers, it being too pregnant with possibilities to be lightly set aside in even the most cursory examination of the fast disappearing Fish-skin Tartars. He says:

"A general consideration of all the facts might, then, lead us to some such hypothesis as the following. During the Magdalenian age two races of dolichocephalic Leiotrichi, differing greatly in stature, extended from western Europe to the east, across the entire breadth of Asia, occupying a zone which included much of the tundra and steppes. They possessed a common Magdalenian culture, and resembled in their mode of life the Algonkians and Athapascans of the tundra as they existed before the advent of the white man, feeding on reindeer and the mammoth, horse and bison, together with various kinds of fish.

"The taller, and probably more powerful race held possession of the more favoured regions in the south, where the climate was less rigorous and game abundant; the shorter race, hemmed in by its tall relations in the south and the ocean or the ice in the north, had to make the best of its inhospitable surroundings, and developed, thanks to its great intelligence, a special mode of life. No doubt other Leiotrichous races, but distinguished by broad heads, were in simultaneous existence in the more southern parts of Asia.

"As the climate became warmer, the pressure of the rapidly increasing Neolithic people began to make itself felt, acting probably from a region somewhere between the Carpathians and India. A movement of the Leiotrichi was set up towards the north; but as there was no room for expansion in that direction, it was diverted towards the only egress possible, and an outflow took place into America over Behring Strait or the Aleutian Islands. The primitive Eskimo, already accustomed to a boreal life, extended along the coast. The primitive Algonkians, following close upon their heels, occupied the southern margin of the tundra, and extended east as far as the Atlantic Ocean. The broader-headed Athapascans came next, and gradually acquired possession of the western half of the southern tundra. The Eskimo were rigidly confined to the coastal regions, but there was nothing to arrest the progress of the primitive Red Indians towards the south—everything, indeed, seemed to invite them in that direction. No geographical barriers rise across the path, and game of all kinds was abundant, so that in no very long time the primitive Indians may have populated both the American continents throughout their whole length, from north to south. It is interesting to observe in this connexion that at the southern extremity of South America we still find a dolichocephalic Leiotrichous race, the Fuegians, who, though very inferior to the Eskimo in some respects, yet present many striking resemblances to them in bodily structure, implements, and mode of life.

"The subsequent differentiation of the original Red Indian races—*i.e.*, the primitive Algonkians and Athapascans—may have given rise to all the existing races of both the American continents, except along the western coast, where the occasional stranding of vessels from the east of Asia or the islands of the Pacific may have added a foreign element."

This certainly presents the hypothesis in a very attractive and convincing way; but one is at once prompted to ask, if the Eskimos represent the Chancelade race in Europe in Magdalenian times, what Magdalenian race, or races do the Algonkians and Athapascans, who followed them so closely in their migration to North America represent? From the above it would seem that they represent the tall dolichocephalic Magdalenian race, related to the Chancelade, namely the Crô-Magnon.

It is not clear whether Professor Sollas meant to suggest this, especially as he more than once states that as yet we have not succeeded in finding among the American Indians, or anywhere

else amongst modern races, for that matter, the peculiar characters of the Crô-Magnon skull.

Presumably, then, if we can discover any resemblances in any of the cranial characters of present day Leiotrichous races to the Crô-Magnon skulls of Europe, we shall have advanced a great step towards connecting up the two groups: for if the arguments used are sufficiently sound, and they certainly seem to be, to establish a connection between the Chancelade of Magdalenian times with the Eskimo of to-day, it should hold good in establishing a connection between the Crô-Magnards and present day American Indians, which we have already shown are considered to be closely related to the primitive Tartars of Siberia and the Amur.

It thus becomes necessary to examine in some detail the Crô-Magnon skeletal remains that have been unearthed in Europe in recent years, to discover their peculiarities, and then to see if we can find similar peculiar characters in the skulls of any living races of mankind.

The Crô-Magnard was tall, averaging 6 feet, long of leg, and with a great cranial capacity; greater, indeed, than the average cranial capacity of modern Europeans. The skull was long, and the face short, while the nose was depressed at the base, with the nasal bones rising rapidly, the organ being, probably, long and aquiline. Another noticeable feature in some of the Crô-Magnon skulls is the peculiar pointed appearance of the roof of the cranium when viewed from the front, while the supra-orbital, or brow-ridges are well developed. But the most striking features of the skull are the great depth and strength as well as prominence of the cheek-bones, or zygomatic arches, and the peculiar way in which they protrude both anteriorly and laterally, making the face exceptionally broad across the cheeks, and, secondly, the peculiar shape of the eye-sockets, which are rectangular, and vertically depressed, instead of being more or less circular.

Now where, amongst the various modern races of mankind, do we find such characteristics, either combined or separate?

Dolichocephaly and a high nose-bridge we find in Europe, coupled, in certain places, with a comparatively large stature, and not infrequently with a large cranial capacity; but here all resemblance between the so-called white races and the old Crô-Magnards ceases; nor do we find any resemblance between the latter and either Negroid or Polynesian races.

But when we come to the Mongoloid races—*i.e.*, the Altaic Mongols, to which belong the Eastern Mongols, the Siberians, and the Amur and Manchurian tribes; the Sinitic Mongols, to which belong the Chinese, most of the Thibetans, the Burmese, and other South Asiatic Mongoloids; the American Indians; and the Coreans (mixed Mongoloid races not being dealt with for the moment)—and examine their skulls in comparison with the Crô-Magnon skulls, we cannot help being struck by the extraordinary resemblance that frequently exists between them.

To begin with, there are in every case the wide and prominent cheek-bones in the Mongoloid skulls. The pointed cranium is almost a universal character; while of the other characteristics noticed in the Crô-Magnard skulls, all are represented in the Mongoloid group, though, it must be admitted, they do not all occur in every race of the group. Thus, more or less pronounced traces of the peculiar rectangular orbits, or eye sockets of Crô-Magnards are to be found in the Thibetan hill-men of Nepal, whose skulls in other respects are very like those of the Crô-Magnard; in the Indians of San Juan Island, British Columbia, Vancouver Island, Ontario; and in the Patagonians and Fuegians. The skulls of the last two, as well as certain old skulls from mounds in Coos Bay, Oregon, show the prominent supra-orbital ridges. The Fuegians are also dolichocephalic; while the Patagonians are noted for their great height.

In regard to such characters as height, and dolichocephaly, it would seem, from recent investigations and observations, that both may be affected by environment, doubtless through the reaction of the internal ductless glands, that have been attracting the attentions of physiologists so much of late.

Thus, though most of the present day Mongoloids are brachycephalic or have heads of medium breadth, it does not follow that they could not have been descended from a dolichocephalic ancestor; and, equally, though most of our present day Tartars are inclined to be rather short, or at least considerably below the average height of 6 feet, it does not follow that they could not have been descended from an unusually tall ancestor.

In this connection it may be pointed out, however, that very tall Mongols are of not infrequent occurrence, men that would even have dwarfed the tall Crô-Magnards; while the hillmen of Thibet and North China, and frequently the plainsmen of Shantung and Chihli, East China, would be classed in the category of tall men.

On the other hand all the Crô-Magnards were not tall, as shown by the skeletons found in 1914 at Obercassel, near Bonn, in Germany, which are undoubtedly of members of the Crô-Magnon race, and of which the male represents a man 5 ft. 3 in. in height and the female a woman of 5 ft. 1 in. And here a suggestion may be made, namely, that the very tall skeletons of the Crô-Magnon race that have been found, and had been buried ceremonially, were those of chiefs, who were chiefs because of their physical superiority.

Such characters as the heavy and prominent cheek-bones, the rectangular eye-sockets, and high supra-orbital ridges are far less likely to have been reacted upon or altered to any great extent by environment or internal secretions, than such as dolichocephaly and height (also brachydactyly), and where they occur in a recent race of man, suggest a descent from an ancestor with just such characters.

The remaining feature of the Crô-Magnon skull is the depressed base of the nose, and the consequent (it is supposed) leptorhine nature of that organ in the living man. Certainly a leptorhine nose is not the rule amongst Mongoloid races, but it does occur, not infrequently, amongst northern Chinese, and Manchus, as well as amongst the North American Indians.

So far the examples of existing similarity between Mongoloids and prehistoric Crô-Magnards have been drawn from somewhat general sources; but I now propose to offer some specific examples, drawn from the region of the Amur, with which, after all, this book is mainly concerned.

In Leopold von Schrenck's Reisen und Forschengen in Amur-Lande in den Jahren 1854-1856, Band III, Lief. 1st, 1881, under the title "Die Vôlker des Amur-Landes," that authority figures and accurately describes the skulls of twelve Amur Tartars, and an examination of these brings out in a most remarkable manner the real affinity that exists between the Crô-Magnon skulls found in Europe and those of these primitive Tartars.

These are the skull of:—

1. A Gilyak from the coast of the Okhotsk Sea by Petrovski, near the mouth of the Amur.
2. A Gilyak from the village Magho, on the Amur near Nikolaievsk.

* Op. cit. plates V, VI, VII, VIII, & IX.

3. A Gilyak from the village of Allof, on the Amur nearer Nikolaievsk than Magho.
4. A Gilyak woman from the vicinity of the Russian village Michailovskoje, on the Amur some little distance from its mouth.
5. An Oltscha (probably a woman) from Decastries Bay, on the coast south of the Amur mouth.
6. An Oltscha from the village of Choto, on the Kidsi swamp, between the right bank of the Lower Amur and the sea coast.
7. A Golde from the Ussuri Valley.
8. A Biraren from the Amur in the Bureija district.
9. A Managirn from the Upper Amur by Kotomanga; close to the mouth of the Shilka River.
10. An Orotschonon from the region of Nertchinsk, on the Shilka River.
11. A Tungusen from Ajakit, a tributary of the Wilui River.
12. A Tungusen from the village of Ankula on the Lower Tunguska River.

These skulls may be described briefly as follows:—

No. 1. Dolichocephalic; short face; rectangular depressed eye-socket; very heavy and laterally projecting cheek-bones: and a tendency to prominent supra-orbital ridges. It may well be compared, especially *en face*, with the figure given by Sollas in his "Ancient Hunters," p. 511, of the Magdalenian Chancelade skull.

Length; 186 mm.; breadth, 131 mm.; height, 133; cephalic index, 70.4.

No. 2. Dolichocephalic; inclination to prominent supra-orbital ridges.

Length, 187 mm.; breadth, 140 mm.; height, 141 mm.; Ceph. ind. 74.9.

No. 3. Brachycephalic; very wide and heavy cheek-bones; prominent supra-orbital ridges; wide lower jaw; very distinct rectangular eye-sockets, depressed. This skull may well be compared with the figure given by H. F. Osborn in his "Men of the Old Stone Age," p. 381, of a male skull found in 1914 at Obercassel near Bonn, in Germany, and described as belonging to the Crô-Magnon race. Except for the broad-headed nature of the Amur skull, and its less heavy cheek-bones and jaws, these two skulls are remarkably alike.

No. 4. Dolichocephalic; wide and heavy cheek-bones; short face.
Length, 183 mm.; breadth, 135mm.; height, 135 mm.; Ceph. ind. 73.77.

No. 5. Brachycephalic.
Length, 164 mm.; breadth, 140 mm.; height, 129 mm.; Ceph. ind. 85.36.

No. 6. Dolichocephalic; eye-sockets round; cheek-bones less prominent; very prominent supra-orbital ridges; nasal bones and depression at base of nose like Crô-Magnon skulls, suggesting a leptorhyne nose. This skull may be compared *en face* with the figure given by H. F. Osborn in "Men of the Old Stone Age," p. 381, of the skull of a young female belonging to the Crô-Magnon race found in 1914 at Obercassel, near Bonn, in Germany, and in profile with the figure of a skull of a Crô-Magnon man from the Grotte des Enfants, Mentone (after Verneau) given by Sollas in "Ancient Hunters" p. 383.
Length, 197 mm.; breadth, 144 mm.; height, 149 mm.; Ceph. ind. 73.09.

No. 7. Dolichocephalic.
Length, 178 mm.; breadth, 135 mm.; height, 133 mm.; Ceph ind. 75.84.

No. 8. Brachycephalic.
Length, 173 mm.; breadth, 144 mm.; height, 127 mm.; Ceph. ind. 82.23.

No. 9. Brachycephalic; very short face; very wide cheek-bones; rectangular eye-sockets; very prominent supra-orbital ridges.
Length, 190 mm.; breadth, 153 mm.; height, 132 mm.; Ceph. ind. 80.52.

No. 10. Brachycephalic; short face; rather prominent supra-orbital ridges.
Length, 182 mm.; breadth, 153 mm.; height, 122 mm.; Ceph. ind. 84.06.

No. 11. Dolichocephalic; very heavy and deep cheek-bones; inclination to prominent supra-orbital ridges.
Length, 182 mm.; breadth, 141 mm.; height, 126 mm.; Ceph. ind. 77.90.

No. 12. Brachycephalic; very short face; heavy cheek-bones; prominent supra-orbital ridges.

Length, 177 mm.; breadth, 150 mm.; height, 187 mm.; Ceph. ind. 84.74.

From this it will be gathered that half the skulls described and figured by Schrenck are distinctly long headed, and half equally distinctly broad headed; four have prominent supra-orbital ridges, and three show a distinct tendency that way; four have very short faces, a distinctly Crô-Magnon feature; and all have heavy and prominent cheek bones. In three of the skulls the rectangular eye-sockets are present, in one being almost as pronounced as in any of the Crô-Magnon skulls.

There is one more point that may be made before turning away from Schrenck's great work, and that is in regard to the huts used in winter by the Gilyaks and other Amur tribes. These in their general appearance, as figured by Schrenck, are strongly reminiscent of the "Tectiforms," which have been described as "schematic drawings in lines and dots believed to represent huts and larger shelters built of logs and covered with hides." Such drawings have been found on the walls of the cavern of Fond-de-Gaume, Dordogne, and have been figured by Osborn in "Men of the old Stone Age" fig. 137, p. 283. (after Breuil).

As regards the wonderful drawings of animals on the walls of the various European caves where Magdalenian remains have been found, it may be pointed out that amongst all the Mongoloid races there are a great many individuals who are extremely good draughtsmen, and who when they draw from nature show a remarkable attention to detail and outline, which is a characteristic feature of these early European cave drawings. Nevertheless, the greater part of their art has become conventionalized, which was also characteristic of the later Magdalenian drawings. This, however, must not be taken as a sign of deterioration in artistic skill, for though a man who makes no pretence of being an artist may draw a bird or beast with astonishing accuracy, the professional artist being tied down to the conventional will probably produce a shape almost unrecognizable to the untutored eye.

Whether these similarities, physical and social, are sufficient to definitely establish a relationship between the present day Mongoloids, or Leiotrichi, and the Magdalenian Crô-Magnards may be a question on which disagreement may take place; but at least it must be admitted that none of the other skulls of prehistoric man in Europe can be shewn to approach the Mongoloid skulls of to-day so closely as those of the ancient Crô-Magnards,

EXPLANATION OF PLATE WITH SKULLS.

PLATE.

Reproductions in line drawings of figures of Tartar skulls given by L. von Schrenck in "Reisen und Forschungen im Amur-Lande," plates V, VI, and VII, for comparison with skulls of the Crô-Magnon and Chancelade races of Europe, and present day Eskimos.

Fig. 1. Front view of the skull of a Gilyak from the south coast of the Okhotsk Sea at Petrovski, near the mouth of the Amur. It represents No. 1 in the list in our text of Schrenck's skulls, and fig. 1 in his plates. (After Schrenck).

1a. The same from above.

Fig. 2. Front view of the Magdalenian skull of Chancelade (after Testut), from Prof. W. J. Sollas' "Ancient Hunters," p. 511. Compare it with figs. 1 (Gilyak) and 6 (Eskimo).

2a. The same from the side.

Fig. 3. Front view of the skull of a Gilyak from the village of Allof, on the Amur, nearer Nikolaievsk than the village of Margho is. It represents No. 3 in our text list of Schrenck's skulls, and fig 3 in his plates. (After Schrenck).

3a. The same from the side.

3b. The same from above; long-headed.

Fig. 4. Front view of the skull of a male of the Crô-Magnon race (after Bonnet), discovered in 1914 at Obercassel, near Bonn in Germany, from Prof. H. F. Osborn's "Men of the Old Stone Age," p. 381, fig. 190. Compare it with figs. 3 (Gilyak) and 7 (Oltcha).

Fig. 5. Front view of the skull of a Gilyak woman from the vicinity of Michailovskoje, on the Amur some little distance from its mouth. It represents No. 4 in our text list of Schrenck's skulls, and fig. 4 in his plates. (After Schrenck). Compare with figs. 2 (Chancelade) and 6 (Eskimo).

5a. The same from above; long-headed.

Fig. 6. Front view of the skull of a Recent Eskimo, from a specimen in the University Museum, Oxford, figured by Sollas in "Ancient Hunters," p. 511. Compare it with figs. 1 (Gilyak), 2 (Chancelade), and 5 (Gilyak).

6a. The same side view (After Sollas).

Fig. 7. Front view of the skull of an Oltcha (very close to Gilyak) from the village of Choto, on Kidsi swamp, between the right bank of the Lower Amur and the sea coast. It represents No. 6 in our text list of Schrenck's skulls, and fig. 6 in his plates. (After Schrenck). Compare it with figs. 4 and 8 (Crô-Magnon): note similarity in the lower jaws of these three figures.

7a. The same from the side.

7b. The same from above; long-headed.

Fig 8. Front view of the skull of a female of the Crô-Magnon race (After Bonnet), discovered in 1914 at Obercassel, near Bonn in Germany, from Osborn's "Men of the Old Stone Age," p. 381, fig. 190. Compare with fig. 7 (Oltcha).

Fig. 9. Side view of the skull of a Managirn from the Upper Amur at Kotomanga, close to the mouth of the Shilka River. It represents No. 9 in our text list of Schrenck's skulls, and fig. 9 in his plates. (After Schrenck). Compare it with figs. 2a. (Chancelade) and 6a. (Eskimo).

Fig. 10. Side view of the skull of a male of the Crô-Magnon race from the Grotte des Enfants, Mentone (After Verneau), from Sollas' "Ancient Hunters" p. 383. Compare it with figs. 3a. (Gilyak), 7a (Oltcha), and 12 (Gilyak).

Fig. 11. Side view of the skull of a Tungus from the village of Ankula, on the Lower Tunguska River. It represents No. 11. in our text list of Schrenck's skulls, and fig. 11 in his plates. (After Schrenck.)

11a. The same from above: long-headed.

Fig. 12. Side view of the skull of a Gilyak from the village of Magho, on the Amur near Nikolaievsk. It represents No. 2 in our text list of Schrenck's skulls, and fig. 2 in his plates. (After Schrenck). Compare it with fig. 12 (Crô-Magnon).

and one is forced to the conclusion that if the latter were not the ancestors of the former, then they were at least closely related to a contemporaneous race or races that were.

In the latter case it would seem that the Magdalenian Crô-Magnards were exterminated in Europe by Neolithic men, who also began to put pressure upon the still surviving Magdalenian Leiotrichi of the steppes and tundra of Central and Northern Asia, forcing them to overflow in successive waves into North America. When that safety valve became closed, as it must have done in early Pleistocene times, the rapidly breeding and increasing Leiotrichi had no choice but to turn back upon the Neolithic men to their south-west, and we have the periodic eruptions of Tartar and Mongol hordes, most of whom seem to have had for their land of origin the rich valley of the Amur and neighbouring regions of Eastern Siberia.

There is no mistaking these Mongoloids. The Eskimos, American Indians, primitive Tartars of Siberia and the Amur, True Mongols, Thibetans, Coreans, Nepalese, Northern Chinese, and, perhaps to a less extent, the Japanese, Southern Chinese, Shans, Burmese, and Annamites are at once distinguishable from other modern races. Their lank, straight, and scanty hair, their yellowish or reddish-brown skins (not pigmented with black as in the various races of India, Arabia, and Africa), their usually straight, rather large mouths, their typically shaped eyes, and above all their great breadth of face across the cheek-bones are features by which any who have studied them, or is at all familiar with them may at once pick them out.

And one cannot but believe that they separated from such stocks as the greater part of modern European races belong to, and such as have peopled Africa, or form the substratum of the races of India and Australia, at a very early period of man's history, long before Neolithic times, well back into the Palæolithic age, and that we see to-day in such peoples as the Eskimos, American Indians, Kamchatkans, Amur Tartars, Buriats, Siberians, and especially the Reindeer Tungus, when shorn of all that European civilization has brought them in the last couple of centuries, a picture of Palæolithic man very much as he existed in Europe before the advent of our own ancestors in the shape of the Neolithic men.

But to return to the subject, which has led to this discussion upon the ancestry and origins of the Mongoloid races, namely,

the Fish-skin Tartars and their allies of the Amur basin, and Manchurian Region.

In reading up accounts about them, listening to what the more intelligent Chinese settlers and traders of the regions have to say about them, or in making personal enquiries and investigations about and upon them, one of the things that strikes one most forcibly in connection with these tribes is the fewness of their numbers. In each case they can scarcely be counted by hundreds, often only by tens; and one feels that they must have arrived at a stage where they are not sufficiently strong numerically to long survive as a race, even under the best of circumstances.

The recent history of the Tartars is a sad one. One views in them a remnant of a vanishing race. They have failed to survive the introduction of the Russian and Chinese civilizations, involving as it does such a complete change in their environment. We see again the sad picture, so often repeated in the history of mankind, of an aboriginal population going down before an invader, not merely through an inferiority in battle, but by sheer inability to withstand the diseases and other social evils of the invader.

When Schrenck made his visit to the Amur in 1854, he appears to have found the Goldis, Giliaks, Orotchis, and others a comparatively numerous and vigorous people. Such cannot be said of them to-day; though from all accounts the Amur Tartars are more numerous than those of the Sungari. This is doubtless due to the fact that of the two civilizations, Russian and Chinese, they can withstand the former better than the latter. The Russians profess a paternal interest in the Tartars, the Chinese have no use for them at all. The Russians leave them a certain amount of room for hunting and fishing; the Chinese not only compete with them in these occupations, but they ruthlessly destroy the forests wherever they go, and the Tartars' hunting grounds vanish; nor, even were the latter to give up the chase, and take to agriculture, could they hope to compete successfully with the Chinese settlers.

One of my reasons for visiting these regions was to get a glimpse of the Tartars, and to learn, if possible, something about them and their ways at first hand. It was therefore with considerable satisfaction that I learned that there was one of their settlements close to Fu-chin Hsien; and the following account of my actual experiences with these people, will serve to show the reader how completely the Fish-skin Tartars are doomed to be effaced

by the Chinese, who, without doubt, are the future inhabitants of this whole region.

On our arrival at the town of Fu-chin Hsien, as described in the preceding chapter, and having deposited our belongings at an inn, we lost no time in enquiring about the local Tartars. The cook of the inn volunteered to go and fetch one of these people, with whom we could talk, and from whom we might find out about the hunting grounds inland from the river, for we were contemplating making a trip overland from the Sungari to the Nao-li Ho, a river that was said to pass through some heavy forest land, where game was plentiful.

To say that one was disappointed is to express but feebly one's feelings when confronted with the first specimen of the Fish-skin Tartars. A dirty, weakly, undersized man, with a distinctly Mongol cast of features, clad in a dull-coloured gown, bound at the waist with a sash, that may once have been of some bright colour, but was now a dull brown, an old felt hat upon his unkempt head, was literally hustled into our presence. He was scared—there could be no doubt about it, and cast longing eyes at the door. He turned to face each speaker as if he expected a blow, exactly after the manner of a miserable cur at bay amongst a pack of pariah dogs, into whose domain he has inadvertently strayed. On his feet were moccasins of cloth, and he carried a long staff. He spoke a sort of patois difficult to make out; but, at last, when it dawned upon him that his interrogator, though a foreigner, could speak Chinese, it became possible to converse with him more or less intelligibly. He was a very stupid individual and, as already stated, badly frightened: how the cook had ever induced him to come to see us at all is a mystery.

He refused to act as our guide, but said he could find some one who might be willing to undertake the task. The hunting grounds were a long way off, three, four hundred *li* away. The roads thither were practically impassable. Yes, we might get somewhere by boat. He would go and find us a guide—and with that he made a sudden dive for the door and escaped, amid the jeers and laughter of the Chinese onlookers, who seemed to find something irresistibly funny in the wretched creature's appearance.

That afternoon we walked over to the Tartar village, named Kao-er-tang. I scarcely know what I expected to find, but what actually confronted us on arrival once and for all dispelled any

romantic ideas I may have entertained regarding these Sungari aborigines. Dirt and squalor one could have forgiven, but the fact that their houses and huts were of Chinese design, and their clothes of Chinese cut, some even ultra modern, was intolerable. True there was something a little different about the women's apparel, while numerous roedeer skins, hanging from the rafters of the huts, bespoke the hunter's life; but that could not satisfy the craving for something that one could seize upon as being purely Tartar, Fish-skin Tartar, typical of the race, and separating them at once from their neighbours the Chinese. What is one to say, under such circumstances, when he meets a member of so ancient and barbaric a race as the Fish-skin Tartars, dressed in a soft felt hat of Japanese make, but European model, worn, not with a dent, but as a bowler, clothes with the tight fitting sleeves and trouser legs of the new Chinese Republican era, and cheap European shoes? Yet this was one of the sights we saw where we had hoped to see Tartar hat, dressed deer-hide jerkin, moccasins and leather belt.

The only thing by which we might know that the people were truly Tartar and not Chinese, was their more pronouncedly Mongol cast of features; but even here the new environment had been at work and softened much of the harshness, and obliterated much of the brightness that one would fain have seen.

A walk through the village led to no discoveries. Low thatched buildings, enclosed by wooden palisades, arranged irregularly along either side of an excessively muddy street, with here and there a cattle shed, a stray pig or two, and some flea-bitten dogs were all that we saw.

We entered one or two of the houses, unbidden and unopposed, talked with the inmates, receiving neither courtesy nor disrespect, and walked out again no wiser than when we entered.

In one yard a young spoonbill was tied by the leg, and was photographed; in another a girl of about sixteen sat sewing some shoes, and was snapped, but on the whole there was nothing of interest.

At last just as we were about to leave the village in disgust, it occurred to me to ask if there were anything one might purchase, and forthwith we were conducted into a rather better class building, where were assembled a number of men, women and children. Some of these were rather well dressed, and before long, by asking and answering questions, we were on a friendly footing. Wine, which was being freely drunk by both men and women,

Group of Fish-skin Tartars (Goldi) at Kao-tang-er, near Fu-chin Hsien, Lower Sungari.

Two Goldis in their winter hunting robes of Roedeer skin.

Fish-skin Tartar hut, Kao-tang-er, Lower Sungari.

was offered us; and we came to the conclusion that there was some sort of celebration on, but what it was we failed to discover. After inspecting some slippers of Chinese pattern, and therefore of no interest, the question of photography was brought up, and the men at once suggested that I should photograph them and their families. This was what I wanted to do more than anything else, and before long the whole crowd was out in the yard posing for me. Some of the women put on their best clothes; while one or two of the men donned their big deer-skin coats and caps.

Then I found to my disgust that I had only two plates left in my camera: I had squandered the rest on objects of but trivial interest. However I got a couple of snapshots, which, unfortunately, did not turn out very well.

I then broached the question of guides for our proposed journey. Two of the men expressed a willingness, amounting almost to eagerness, as the fumes of the crude raw spirits they were drinking mounted to their heads, to go with us. After the usual discussion it was settled that if we could secure transport they would accompany us and act as guides to some good hunting grounds on the Nao-li Ho for the exorbitant wages of Roubles 90 per month.

We left the village and went back to our inn, where we tried to secure the required transport. This proved to be impossible, however, and in the end we were forced to abandon the trip.

From these experiences of the *Yü-'pi Tatzu* it will be understood that there was nothing much to be gained by personal investigations, but enquiries amongst the Chinese who had lived amongst them elicited the following facts that are worth recording.

It seems improbable that much interbreeding has taken place between the Tartars and Chinese. The fact that Chinese women have always been, and are still, at a premium in Manchuria, precludes the possibility of Tartars securing any in marriage. Thus the Tartar communities would be free of any admixture of Chinese blood. On the other hand there is a remote possibility that some of the earlier settlers and exiles from China might have secured Tartar brides, which, if it ever happened, would mean a small sprinkling of Tartar blood in some of the Manchurian born Chinese; but since from all accounts the number of women amongst the tribes along the Amur and coastal regions

was never very great, and scarcely sufficed to supply the men with wives, it does not seem likely that the hated aliens should manage to obtain any.

The Fish-skin Tartars may have mixed more freely with their kinsmen the Manchus, but on this point I could gather no information. Such of the former as I was able to question, stoutly repudiated the idea that Tartars and Manchus are of the same race, though up to the time of the Chinese Revolution in 1911-12, they acknowledged the Manchus as their masters and drew allowances from the Manchu Government, exactly as did the Manchus themselves.

In appearance the Tartars are shorter in stature, rounder in the face, and altogether more uncouth and less refined than the Manchus.

Their national dress, previous to the inrush of Chinese settlers, and the consequent adoption of Chinese apparel, consisted of clothes made from the dressed skins of animals and fish (salmon and sturgeon), though cotton cloth, imported from China, was also used when available.

Indeed, Fraser, quoting Margaritoff, says of the Orotchis (coastal tribes) that "Chinese cotton cloth (*ta-pu*) is the principal material used for clothing, and in winter dog-skins and occasionally fox-skins are worn." The same writer describes the costume of these people thus: "*Khalat* of *ta-pu* or other material, coming a little below the knee, with fastenings doing duty for buttons all the way down, the upper parts crossed across the chest; favourite colour, white and dark blue, sometimes cinnamon coloured. A collar and facings of a different colour. A few wear a cotton shirt beneath, and sometimes a man will wear two *Khalats*, or robes, the older of the two outside. Breeches, and spatter-dashes coming half way up the hip, as we often see among Chinese. A belt, with side thongs for the spatter-dashes. The latter are sometimes made of fish-skin, seal-skin or fur, according to the air temperature to be guarded against. In winter a *shaba*, or skin robe shorter than the *Khalat*, is worn. Shoes principally of fish-skin, occasionally, however, of musk-deer fur for winter, and dressed reindeer hide for summer. Shoes of reindeer or fish-skin, with soles of reindeer skin, are worn in summer, for fish-skin soles would soon wear out on the hard ground; but in winter, when the Orotchi goes generally on snow-shoes, he wears fish-skin soled boots. He is generally hatless, but dons a conical broad-brimmed birch-bark hat for rainy weather. In winter, a little

cap of skin from reindeer's or musk-deer's legs, and a scarf of squirrels' tails, rolled round the neck and head outside his cap. In his cummerbund he carries two knives in birch-bark or leather sheaths; one—long, narrow, and pliable—serves as a gimlet, plane, etc., the other—shorter and broader—to cut his food, and for coarse work generally. He carries a birch-bark tobacco-pouch in his bosom, made fast to a coral running through his top button hole. . . . . .

Women's costume differs little from men's; it is of course more ornate in style and of brighter colours, and it is adorned with brass *plaques*; favorite colours, yellow and red, light blue and cinnamon are also used, the rule being that the facings are of a different bright colour from the ground-tint; ear-rings of silver an inch across, with bright coloured stones attached. The rich wear three or four of these big ear-rings in each ear, and a few wear small nose-rings. This custom is very common on the opposite coast among the North American Indians. A few wear bracelets and rings."

Arthur Adams, writing in 1870 of what he called "Manchu Tartars," inhabiting the coastal regions of Manchuria describes the women as follows: "The Manchu women we met were clothed in loose blue jackets, close round the neck, and reaching as far as the waist, and fastened with loops on the right side; a petticoat of a bright red reaching half way below the knee. Their legs were bound round with straw as a defence against snake-bites, and covered with spiral strips of red, white, and blue cloth. On the wrists they wore brass and white metal bracelets; their hair was worn in two long tails, reaching to the waist, with narrow strips of red cloth at the ends. There was an ornament at the back of the head between the tails, a leathern band edged with blue beads, with a central line of cowries and brass beads hanging below it. Their earrings were of silver, with pendant brass rings and jade-stone ornaments, and a small ring of silver, with a glass drop to it, was worn through the right ala of the nose."

It is a little difficult to make out from the context just which part of the Manchurian coast is meant, but in all probability it is that part between Vladivostok and the Amur, in which case the women whose dress he describes would belong to the Orotchis, and not Manchus.

The Fish-skin Tartar women we saw at Kao-er-tang had adopted either the Chinese or Manchu style of dressing their hair. They also wore the Manchu dress.

The men, as already indicated, wore Chinese and semi-foreign dress, especially in regard to headgear. They all owned huge coats of roe-deer skin, with high collars and caps with turn down flaps to match. The hair of the animal was outside.

One or two who were in hunting dress had the peculiar smoked-leather moccasins known in Manchuria as *wula*. These are used by all who go into the forest, and most of the farmers and settlers in the forest regions. They are generally worn much too large, and the foot is bound round with what is known as *wula ts'ao* or *wula* grass, a peculiarly fine, soft and springy grass with long fibres. The latter is twisted right up the leg, and the thongs or ropes that keep the moccasins on are wound up the leg. This is doubtless what Adams was referring to in his description of the "Manchu Tartar" women's foot-wear. If so, then he is wrong in supposing the "straw" to be for protection against snake-bite. It is to keep the feet warm and dry. The Manchurians look upon the *wula* grass as of great value, for without it none could survive frost-bite in the feet in winter. The Chinese have a couplet which runs:

Kuan-tung Ch'êng san têng hao
Jên-séng tiao-p'i wula-ts'ao

which may be rendered in English:

Three valuable things hail from East of the Pass,
Jenseng, sable-skin and *wula* grass.

Kuan-tung means East of the Pass, and is the Chinese name for Manchuria, as that country lies east of the pass at Shan-hai Kuan.

The Tartars of the Sungari are mostly engaged in hunting and fishing, at both of which they are past masters. The demand in the Chinese market for hartshorn has led, however, to a rapid diminution in the numbers of wapiti and sika-deer; while the bear and roe have also been decimated within fifty miles of the river bank. As for the sable, which at one time formed their chief quarry, it has almost disappeared over wide areas, where formerly it was comparatively plentiful. This necessitates frequent long journeys inland, both into Heilungkiang and Kirin; while with the advent of Chinese competition in the chase, the animals are becoming fewer and fewer every year.

There is one other vocation practised by the Tartars, though to a lesser extent now than formerly, and that is robbery. They

are hand-in-glove with the *hunghutzu* bands that harry the districts adjoining those in which they live. The Chinese, how justly it is impossible to say, accuse them of taking active part in many of the robberies committed. We heard, on what seemed good authority, that the Tartars of Kao-er-tang, while on a hunting expedition the summer of our visit in the Jao Ho district, sixty or seventy miles to the south-east of Fu-chin Hsien, had raided the opium planters, who had been carrying on a profitable industry in the backwoods, and had got away with much booty. The opium growers being, *ipso facto*, subject to legal proceedings themselves, naturally could not apply for the protection of the law, but had sworn vengeance on any Tartars that might fall into their hands.

The *Yü-p'i Ta-tzu* are heavy drinkers, consuming large quantities of the raw spirits made by the Chinese. In recent years they have lost heavily in horses and cattle through the ravages of disease, doubtless brought in by infected cattle from the west. Further, since the founding of the Chinese Republic, they no longer receive the military pittance that they used to draw from the Manchu Government. The women are less prolific than their Chinese sisters, and it is a large family that counts more than two little mouths at the board. All these facts, together with the Tartars' inability to take up a life of agriculture, are proof that they belong to a race that is on its way to extinction.

As we did not go hunting with any of these people, it is impossible to speak from experience of the methods employed, and their skill as hunters; but the fact that the Chinese hunters always like to have one or two in their parties is significant.

Their methods, as far as I could gather from enquiries, differ but little from those employed by Chinese and Mongols elsewhere. Driving is frequently resorted to, two or more men, chosen for their marksmanship, taking up positions of vantage, while the rest of the party try to drive the game in their direction. Wapiti and sika during the season when the horns are in velvet form their chief and most profitable quarry. Later bear and pig are hunted with dogs, and finally when the snow comes, they hunt the tiger by tracking. In the winter fox, raccoon-dog, sable, mink and squirrels are trapped. They also shoot such game birds as hazel-grouse, black-cock, and pheasants for the game markets of the nearest large towns.

As fishermen the Tartars are equalled only by the Coreans, though, as far as one could make out, they lack many of the

clever devices for catching small fry employed by the latter, devoting their time and skill rather to the larger kinds of fish which swarm in the Sungari and Amur. Catfish, wels and the smaller carp they catch with hook and line; the larger carp and pike they spear, working up under the overhanging willows in their small canoes when the water is clear enough for their purpose.

The salmon which come up the river in swarms in September are taken in great quantities in nets. Split and salted or smoked, the salmon supply the Tartars, and to a minor extent the Chinese, with food throughout the winter, until the rivers open again late in spring.

The miscarriage of our original plans to be in the vicinity of the Sungari or Amur during the season of the salmon run, deprived us of an opportunity of witnessing the catching and salting down of the fish. Also I was disappointed in not getting specimens of the salmons themselves, as we had made an otherwise comparatively complete collection of the fish of the Sungari.

In the matter of boats the Tartars use dug-outs, made from a single log, or two logs rivetted together. These are comparatively shallow, though wide enough to secure stability. The same pattern is used all up and down the Sungari, the Chinese having adopted it as being cheap and easily handled. They are, however, neither as light nor as manageable as the Corean dug-outs, though the latter are much harder, and take more time, to make. They use double-bladed paddles like the Coreans, which is contrary to the custom of the Chinese, who use sweeps or oars, such as they use in their own *sampans*, or else paddle from a standing position with long-handled snow-shovels.

The dug-outs can be used with a sail, the latter being small, and consisting of a square sheet attached by two corners to a cross-bar on the mast, the remaining two corners being fastened to ropes which the steerer holds or ties down to a thwart. Steering is done by means of a paddle or sweep over the square stern of the boat.

We noticed another kind of boat in use amongst the Tartars, which was called *wei-ho* by the Chinese, and which was something akin to the true Chinese *sampan* as used on the rivers and lakes of Chihli. Whether this boat, which is also extensively used by the Chinese on the Sungari, is of Chinese or Tartar origin I could not discover. Fraser describes a sea-boat used by the Orotchis of the coast, which reminds one strongly of this craft used on the Sungari. The latter is more flimsy in build and more shallow than the

Chihli *sampans*, is usually constructed of three boards, one at the bottom and one on either side, bent and nailed at bow and stern to blocks of wood, the bow piece being about half the size of the stern piece. A single thwart, into which a hole is let for the mast, is set about two thirds of the length of the boat from the stern, and holds the side boards, keeping them from collapsing. There are neither ribs nor knees. The whole boat is very shallow, and extremely awkward to manipulate, though it will carry a good heavy load and is safe enough under ordinary circumstances. The sea-boat of the Orotchis has two extra boards, one on either side, which are detachable.

There are said to be several Tartar settlements along the Sungari below San-sing, the largest of which is La-ha-su-su, on the Heilungkiang bank close to the junction of the Sungari and Amur, where there are some five hundred families.

The Tartars of the upper and middle reaches of the Amur appear to have been somewhat more highly civilized than the other tribes. They developed an Art of their own, though, according to Laufer in his "Decorative Art of the Amur Tribes,"* it was influenced by that of the Chinese in its initial stages. For the most part this Art consists of the carving and decoration of wooden implements, and a certain rather crude embroidery, at both of which they are very clever. In the wood carving the artists borrow freely from nature, being especially partial to the use of animals and fish in their decorations, while the embroidery is mostly of a sort of scroll design.

Like the Ainus, the Amur and coastal tribes set great store by the bear, and when one is captured alive the captor gives a ceremonious feast in which the animal plays an important part, being led from house to house of the guests, finally being killed and eaten.

In a paper published in *The World's Chinese Student's Journal* Dr. Wu Lien Teh describes a journey down the Sungari and Amur, and gives the following short but interesting account of the Fish-skin Tartars of La-ha-su-su. The only point wherein his observations differ from my own is in regard to the dress of these people. Though he does not state that he actually saw the people dressed in fish skins, he says that they wear clothes and shoes made of the skins of sturgeon and salmon. I tried to secure a sample of such garments at Kao-er-tang, and know others who have also tried to do so, but like myself failed. I did not even see anything of this nature, and was told suits of such clothes

* Memoirs of the American Museum of Nat. Hist., Vol. IV, Jan. 1902.

were very rare and expensive, except in the regions at the mouth of the Amur.

Dr. Wu writes: "La-ha-su-su probably derives its name from the remains of some mud and straw huts which had served as a camping ground for the early Manchu warriors in their constant fights against the Russians in the seventeenth century. The earliest settlers probably belonged to the Tunguzian Tribes, some of whose descendants exist to-day as the *Yü p'i ta tzu, Hochê,* or Fishskin Tartars. The Russians call them "goldi." These Tartars are very interesting people. They are simple in their habits, live mostly on fish caught by them, and wear clothes and shoes made of the skins of sturgeon and salmon which abound in these regions. The interior of their huts is much after the fashion of peasant homes in the north, [China] the *k'ang* being universally adopted for sleeping and sitting purposes. Valuable furs or clothes are stored outside the living quarters in a separate hut which is built on four poles at a height of 6 feet above the ground. At the junction of the floor of the hut and its supports are placed four empty kerosene tins: these give warning to the inmates of the presence of any wolves or foxes. They speak a polysyllabic patois of their own, not unlike Manchu, read the upright Manchu characters, and also understand a little Russian. Their features are markedly Mongolian in type, the cheek bones being particularly prominent and the eyes drawn outwards and downwards, whilst the hair is brown instead of black. The men usually wear queues though many in the interior still leave their heads unshaved like the Koreans. The women are not big in stature, their feet are not compressed and they wear long dress like their Manchu sisters. Their hands are small and neat though they do much hard work at home, whilst the men go out fishing. There is also a Government school at the village, with a Chinese teacher from Chihli in charge, nearly half of whose pupils are Tartars. The few traders in Lahasusu deal in spirits, fish, wood and skins, vodka—(*i.e.* Russian Samshu) smuggling across the river being a paying business both to the Chinese and Russians. Much hunting of wolves and foxes is done in the winter. The hunters have an ingenious method of laying attractive looking sugared balls of explosive material along their track, each of the size of a walnut, which, when bitten by the animal, at once explode shattering its skull and killing it instantly without the fur being spoilt by any blood."

Of the Sibos of south-western Heilungkiang province, bordering Mongolia, it is impossible to say much at first hand. I saw

some of these people when passing through the country on my way from Harbin to Manchuli, and they appeared to be much like the Mongols both in appearance and mode of life. They are nomads and depend for a living upon their flocks and herds. They live in felt tents or *yurts*, and go in for a certain amount of hunting. The district they inhabit is noted for its robbers, and it is probable that many of them participate in the armed robberies one so frequently hears about. They are a hardy and vigorous race, and will probably long survive the Tartars of the Amur, Sungari and coastal regions.

Manchus. As has been indicated already the Manchus in Manchuria have been swamped by the Chinese, and even where they occur in greatest numbers, such as in the larger cities and towns of Fengtien and Kirin it is difficult to distinguish them. The women who wear a dress that distinguishes them from the women of China proper, have been copied to a considerable extent by the Chinese women living in Manchuria, so that they, too, are not easily distinguishable from their Chinese sisters.

The fact that the Manchus are no longer the ruling race, and that every Manchu is now no more than a citizen of the Chinese Republic must hasten the process of fusion of the two peoples, the beginnings of which was noted by earlier writers.

It is difficult to give any accurate estimate of the number of Manchus in Manchuria. In 1911, just before the outbreak of the Revolution which overthrew the Manchu dynasty, the Manchus together with the other Tartars in the country, were estimated at some 2,000,000. This is probably far above the actual figure.

Unlike the Amur and Coastal Tartars the Manchus will survive, but only as a mixture with Chinese.

Chinese. The Chinese that inhabit Manchuria, being drawn for the greater part from the peasantry of Shantung are a very fine people indeed. The Shantung Chinese are undoubtedly the finest specimens of the whole race, and to this initial advantage is added the splendid conditions and environment that Manchuria affords, with the result that the Manchurian Chinese are a free and independent people. No longer threatened with the calamities that continually overtake them in their own country, such as famine, floods, and the extortions of corrupt and greedy officials, with their yearly crops assured, and a fine market for their abundant produce, they have lost much of the meanness and suspicion that so often characterizes them in their own country. With prosperity and plenty for all they are no longer grasping and greedy: while their outlook has been widened and their minds broadened by their view

of the world as they journeyed from their peasant homes in the seclusion of the interior of the province in which they lived. Wherever they go, and even in the smallest communities of settlers they establish schools for their children.

The influx of Chinese began soon after the conquest of China by the Manchus, but it was discouraged by the authorities, and edicts threatening the death penalty for all Chinese who entered Manchuria as settlers were issued. But in spite of this the immigration continued till in the years of the great famine that devastated North China, 1875 to 1877, refugees from Shantung poured into the country in enormous numbers. From that day to this there has been an uninterrupted flow of immigrants from both Shantung and Chihli.

Coreans. Manchuria supports a comparatively large, though widely scattered Corean population. Elsewhere I have discoursed upon the Corean as I saw him in his own country, where he is practically a slave, subject to a dominant, conquering race, the Japanese. Though, even during the days of Corea's independence, many of her people crossed the Yalu, and took up their abode in Fengtien and Kirin, where they lived largely by fishing, hunting or gold-washing, it has only been since the Japanese took over their country that they have migrated in any large numbers. Now there are many of them settled as farmers in Eastern Fengtien, Kirin and even as far north as Heilungkiang. In these places, though the butt of the Chinese, they appear to be doing very well.

Very different from either the Chinese or Tartars, both in appearance, costume and habits, the Coreans belong to a very old race, and may be classed as aborigines. They are the hereditary foes of Japan, and their history shows a continual savage warfare between themselves and the Japanese on the one hand, and the neighbouring Tartars and Chinese on the other. They boast a very old civilization.

Japanese. The Japanese population in Manchuria is confined mainly to the towns and villages along the railway. Contrary to the hopes and expectations of those interested in the Japanese development of Manchuria, the people of the island kingdom have shown themselves none too willing to settle on the land provided for them and so far the attempts to colonize South Manchuria have proved a failure. As peddlars, petty merchants and railway employees the lower class Japanese are willing to settle, for a time at least, in the country, but they do not show any aptitude to take up land and become farmers; nor, if the truth be known, could they

hope to succeed in competition with the Chinese.

This does not mean that the Japanese will not, in time, become the political masters of Manchuria; for there is little room for doubt that the ambitions of Japan incline that way, and there is none to stop her. China is too weak from a military point of view, while Russia as a dominant factor in the politics of the Far East has ceased to exist.

During the latter part of the late European War Japan landed strong military forces at Vladivostok and from there marched down the Ussuri and up the Amur at least as far as Blagoveschensk. She also sent large forces to Harbin and on to the Siberian border, so that in one way and another there must now be a great many Japanese throughout the whole of the Manchurian Region, and it remains to be seen whether or not they will stay there. Certainly these events will give a fillip to Japanese immigration into Manchuria; but this cannot alter the real trend of affairs in this region, namely the ultimate and complete occupation by Chinese.

Ainus. While on the subject of the people of the Manchurian region, mention should be made of the Ainus, who are the true inhabitants of the Islands of Saghalin and Yezo, and those that extend from Yezo to Kamschatka, which are known as the Kuriles.

Of the Ainus I have had no personal experience, but they are well-known as a people of peculiar interest.

It is true that the northern half of Saghalin is inhabited by Giliaks, but the rest of the island belongs to the Ainus, a non-Tartar race. Whence the Ainus came is a mystery. They are very hairy, have bushy beards, and their skulls belong to the 'long-headed' type. They have no affinities with the Tartars, who present a very different appearance, chiefly through having only the scantiest hair on their faces, and almost none on their bodies. They are believed to have occupied all the Japanese Islands before the Corean ancestors of the Japanese invaded those islands. They probably represent a race of so-called 'dark whites,' and so would form part of that invading Neolithic race that drove the Mongoloids to overflow into North America. They must have acquired their present distribution by way of the island chain that fringes Eastern Asia from Southern Asia. Possibly they existed on the Chinese mainland, but were exterminated, and the islanders amongst them cut off and isolated, by the returning hordes of Palæolithic Mongoloids when the 'Miocene Bridge' broke down. And who can say that this Ainu stock, working along the shore of that Bridge into North America, may not have been amongst the earliest people to populate the two continents of the Western

Hemisphere, subsequently being overwhelmed by successive waves of Mongoloids.

Adams describes meeting them on Saghalin Island, and from his and other accounts they are very different from their neighbours the Giliaks. He says: "The dress of the men of this remote region is composed of course canvas or the skins of dogs and seals. Their legs are protected by laced buskins, and their feet by clumsy straw sandals. Every man carries a knife in a wooden sheath, and a carved tobacco pouch. The lips of the women are tattooed of a pale black colour, and their course straight hair is neither gathered up in a becoming knot, nor confined by coquettish net or other feminine device, but is simply parted down the middle, and very much resembles a huge black mop. These "unlovely" women have enormous metal ear-rings depending from the lobes of their ears, and necklaces of coloured beads adorn their necks. They are clothed in silver-grey or spotted seal-skins, and wear long boots of the same material reaching above the knee. A black leathern girdle, or "cestus Veneris," encircles their waist, which is covered with brass ornaments and from which is invariably suspended the all-useful knife."

Russians. It is difficult to say just what is the situation in regard to the Russian population of Manchuria to-day, but, in the period between the Russo-Japanese war and the overthrow of the Russian monarchical system, the whole of the Chinese Eastern Railway area from Manchuli to Vladivostok supported a large Russian population. The valley of the Ussuri was also partially settled by Russians, while the Amur from its source to its mouth was peopled to a large extent by colonists from Siberia and European Russia, as well as merchants, traders and officials. During the late war enormous numbers of the male population were conscripted and sent to Europe to fight, and in the troublous times that followed the usurpation of authority by the Bolsheviks, it is a question whether any but a small proportion of these have ever got back to their homes. To balance this large numbers of Polish Jews were sent to such towns as Harbin from their homes in Russian Poland, and it is doubtful if they have gone back. Also Austrian, German and Czecho-Slovak prisoners of war were sent to the Amur Province, and apparently escaped or were given their freedom under the short-lived Bolshevist rule in these parts. What has become of these, whether they have settled in these parts or have gone further west into Siberia cannot be said. In any case it looks for the moment as if Russian domination in any part of the Manchurian region were over.

CHAPTER XXI.

Arrested as Spies.

CHAPTER XXI.

Arrested as Spies.

I now come to an amusing, if at the time a somewhat embarrassing, incident, which I would hesitate to relate but for the fact that it throws a sidelight on the Russian character, and explains better than anything else why I was unwilling to continue our explorations into the Amur regions after having come so far.

It will be remembered that when we reached Harbin, we made it our business to interview the various authorities in order to ensure proper treatment in the course of our travels in country under Russian jurisdiction.

Our chief danger in this part of the world, at a time when Russia was at war with Germany and Austria, was that of being taken for spies. It behoved us, therefore, to have our passports and papers in order, and, as guns and firearms generally were viewed with suspicion by Russian officials, we endeavoured to get permits for our weapons. We were assured at Harbin that our papers were in order, and that there would be no difficulties with regard to our guns. However, the Danish gentleman we met on the steamer while on our way down the Sungari, warned us that we could set no store by these assurances, saying that both arms and cameras were absolutely forbidden on the Amur, and that we should find ourselves in serious trouble if we attempted to go on with them.

As I had found no restrictions placed on me or my guns when I visited I-mien-p'o the year before, I did not think we were likely to be troubled on this occasion; but I reckoned without the zeal of petty officers of the Railway Guard. Everything was as it had been the year before at I-mien-p'o. We went to the police and had our passports stamped. We were introduced to the Colonel of the regiment forming the Railway Guard, and so felt perfectly free to go and come as we wished. And so we might have done, but for a zealous Sergeant in charge of the half dozen soldiers at Samafalo Station.

As we were about to leave the railway for the woods, this man got into an altercation with Nicholai, and presently we were asked for our papers. We produced our passports, but these seemingly were not enough. Next I produced the letter from the Russian Consul in Tientsin, but this they could not read. We argued as best we could, but to no purpose. All we could make out was that we could not leave the station. Then the telephone was resorted to, but instead of telephoning to I-mien-p'o, the Sergeant telephoned to his *Capitan* at the next station in the opposite direction, who, not knowing what to make of us, ordered us to be placed under arrest and conducted to him on the next train. The immediate effect of this was to turn the soldiers from a friendly but firm attitude to one of actual hostility. Our weapons were taken from us, even down to our pocket knives, and we were marched off between soldiers with rifles loaded and fixed bayonets; while so savagely did these rough fellows glare at us, we half expected a prod in the ribs from their ugly looking weapons.

We were put in a gravel train, and with all our baggage taken to the next station, where we were unceremoniously dumped on the platform. Here we ignominiously marched past the grinning inhabitants to the Captain's quarters, where our passports were gone over mid much shaking of heads and frequent scowls. Next our baggage was overhauled, and things began to look serious for us; though, at the same time, it was really very funny, and in spite of our predicament we could not help smiling.

The amount of ignorance displayed by those Russians, and the false deductions they drew from the contents of my collecting boxes was amazing.

The wire that I had for the tails and legs of my specimens they said was for *telegraphi*. The wire cutters and other simple tools were to destroy telegraph poles and cut the wires. The arsenic and alum powder for preserving specimens was undoubtedly for poisoning wells and water, my camera, a stereoscopic one, was for *topographi*, but the climax was reached when they discovered our fishing rods, which I mounted for them. The word *Marconigraphi!* burst from the lips of the Captain, and was repeated all round. I tried to explain their real purpose, but it was no use. We stood convicted spies or worse. What would have happened had they discovered my supply of gunpowder and percussion caps for reloading shells for small birds, I do not like to think; but fortunately these incriminating articles did not come to light. As it was the gallant Captain had seen quite enough to put him

into a very excited frame of mind. Here surely was a capture? Promotion for him would follow. Spies taken almost red-handed in the act of destroying the railway line! He ordered us to be marched off to the barracks, and as we went an unshaven red-bearded bystander, a man whom I had met the year before, and who had always shown a spirit of animosity towards me, wagged his head at us, and with a horrid leer on his bloated features said, "Ah ha, Yermanski spion, Yermanski spion!" How I hated him that moment!

We were placed in an empty room in the barracks, and a guard was set over us. There we were left, not knowing what to expect.

Needless to say this did not suit our book at all. At least we must know what was going to be done, and, if possible, get into communication with our respective consuls in Harbin. The question was how?

I beckoned to one of the guard, and by signs made him understand that I wanted to see the Captain. At first he was unwilling to comply with my request, but after a while went off, returning a little later with the officer in question. I tried to explain to the latter that I wanted to telegraph to my consul in Harbin. He shook his head. Then I got cross, and so did Schroder, and when he saw that we were inclined to give trouble, he sent for a Chinese who could act as interpreter. Through this medium I let the Captain know who we were, what we were doing in the district and why we were here instead of in the Amur region as indicated by our passports and letter. I warned him that he might find himself in trouble over us, as our Consuls in Harbin knew all about us and where we had gone. I demanded again to be allowed to communicate with our Consuls, at which he began to look a shade less sure of himself, but he would not give way. He informed us that he had communicated with his Colonel at I-mien-p'o and was awaiting instructions. I told him that we were personally acquainted with the Colonel. This last piece of information seemed to still further upset his equanimity. Obviously he was not sure of himself; and finally though refusing us the right to telegraph to Harbin, or to telephone to I-mien-p'o, where we could have evoked the assistance of my friend Mr. Wischniakowski, he assumed a more pleasant demeanour toward us, and assured us that everything would be all right,.

There was nothing for it but to possess our souls in patience for the time being. Our vigorous protests had one good effect,

in that we were allowed the freedom of the whole barracks, but I noticed sentries being surreptitiously posted so as to eliminate all possibility of escape. Food also was brought to us, but as it was that supplied to the troops we found it very nauseating.

One could not help feeling a certain amount of anxiety as to the outcome of the affair. Already there were rumours of the disappearance of Europeans, other than Russian, who had been travelling in this area, and the Siberian mercury mines are anything but a myth. Apart from the possibility of being summarily executed as spies, there was the likelihood of being sent to Vladivostok for examination, in which case we should at the best have considerable trouble to secure our release, and be subject to confinement and much inconvenience in the meanwhile.

The possibility of being shot for spies was not so remote as it might seem to the reader, having regard to the nearness of our own Consuls at Harbin, for the times were bad. Russia was not progressing favourably in the war, and spies were known to be at large in these regions. The railway line on which we were taken, was at the time of the utmost importance to the Russian Government. Troop-trains were passing along it at the rate of two or more every hour of the night and day. Russia was mobilizing her great army of 8,000,000 men, and great numbers were being drawn from the Vladivostok region and all along this line. Tons of ammunition and supplies of all kinds from America and Japan were being speeded from Vladivostok to Europe as fast as it was possible to send the trains along the single track. A bridge blown up, or even a displaced rail on the line would be a disaster that would be felt at the front, where Germany was pushing towards Riga. The impending freezing up of Archangel would cut off all supplies for the mammoth Russian army from that direction, and this railway would be the only means whereby the sorely needed munitions of war could be supplied: and here were we, two foreigners, with very suspicious looking materials and instruments in our baggage, one of us even with a Teutonic name, trying to get into the woods that bordered this valuable line. Can we wonder that the Captain had us placed under arrest? A less pleasant fellow—for he was in reality a very pleasant and genial sort of man—might easily have lined us up against a wall and had us shot; nor would he have found much difficulty in explaining his conduct.

It is true we had our passports, but these, especially mine, were prejudiced by the fact that only a few weeks before a Ger-

man from Tientsin had used a forged British passport on this very railway in an endeavour to obtain a large consignment of wool that lay at Hailar for his firm. The trick was not discovered till he was safely back in Chinese territory where he could not be touched. Naturally British passports were open to suspicion under such circumstances.

And so the day wore on, till just as we were discussing the advisability of renewing our protests at being detained, Nicholai, who at the first sign of trouble had mysteriously disappeared, turned up with a couple of slips of paper, which he showed to the Captain. The latter seized them and came hurriedly to us, waving them in the air and gesticulating wildly. The interpreter explained that now we were free. It turned out that under a recent police regulation we should have had permits to leave the railway line, and it was the omission to furnish ourselves with these that had led to all the bother. Nicholai should have seen that we possessed them, as he had one himself, and knew the regulation. He was severely lectured by the Captain, who was obviously rather concerned about the whole affair, but we assured him that we bore no ill will over his conduct, and shook hands all round. We took the next train back to Samafalo, but had to pay our fares.

So ended an incident that might have proved very unpleasant to us, but under the circumstances amounted to a mild lesson as to what we might expect if we failed in future to comply with the military regulations in vogue.

Still it left an unpleasant impression, for I did not like being cut off from communication with our sources of protection. But for Nicholai's prompt action in getting back to I-mien-p'o, and laying the matter before those in authority there, it is impossible to say what would have happened. It turned out afterwards that though the officers of the Railway Guard, who had taken us prisoners, and therefore had the disposing of us, were satisfied with our *bona fides*, the police department were not, and subsequently it took no little influence to keep us out of their clutches. However, as we did keep clear of them, at the same time carrying on our occupation of hunting and collecting in the vicinity, I am inclined to think that on the whole we were extremely lucky.

CHAPTER XXII.

Woodcraft, a Bear, and a Wapiti Stag.

Oh, the sense of the yellow mountain-flowers,
And thorny balls, each three in one,
The chestnuts throw on our path in showers!
For the drop of the woodland fruit's begun,
These early November hours,

That crimson the creeper's leaf across
Like a splash of blood, intense, abrupt,
O'er a shield else gold from rim to boss,
And lay it for show on the fairy-cupped
Elf-needled mat of moss,

By the rose-flesh mushroom, undivulged
Last evening—nay, in to-day's first dew
Yon sudden coral nipple bulged,
Where a freaked fawn-coloured flaky crew
Of toadstools peep, indulged.

—*Robert Browning.*

CHAPTER XXII.

Woodcraft, a Bear, and a Wapiti Stag.

It is a wonderful thing how much there is to be learnt by the student of nature in the wilderness. There is always something new about the trees, or the birds, beasts and fishes, the flowers or the lower organisms to attract his attention. He can never say that he has found out everything, laid bare every hidden secret, or solved every mystery. And of all places the forest is the richest school for study. Thus, on this my second autumnal visit to the North Kirin forest, I came across so much that was new to me, and that must prove of interest to the nature lover, that I make no apologies for devoting another chapter to the region.

Not only did I come across new things of scientific interest, but with my friend Schroder, who, amongst other qualifications, possessed an extraordinary knowledge of woodcraft, as teacher and guide, learnt so much that was useful in this line, that I cannot refrain from passing on some of that knowledge to the reader.

In one way and another I had spent a great deal of my time in the open. The Canadian prairies and the forests of Vancouver Island, in the early days of the great settling up of the land were not unknown to me. For years past I had travelled and hunted in various parts of North China, often accompanied by native hunters and dwellers in the wilderness, from whom I had gathered not a little of the lore of the wilds and woodcraft. In addition my experiences in the Manchurian forests during the past two years had taught me much that could only be learned in the wilderness, so that I felt that I was by way of being something of an expert woodsman. Yet, on this my last visit to this glorious forested region, I was to find out how little I really knew, how much I must unlearn and learn anew if I would become in fact what I had vainly thought myself to be.

Schroder was to the manner born. He shot his first deer at the age of eleven: he learnt his woodcraft from the smoky North American Indian himself. He served his apprenticeship in the

cow-camps of Arizona. Was in the Yukon at the time of the great gold rush; and subsequently spent some years in the jungle of the Philippine Islands where none but the strong may survive the soaking rains, tropical heat, deadly miasmas and poisonous vermin. He it was who now undertook to put the finishing touches to my woodland education.

After our unpleasant experiences recounted in the last chapter, we found ourselves, with Nicholai, En Pei, the young taxidermist, and Wang, the derelict, at Samafalo Station. It was too late to start into the forest that night, and so perforce we had to accept the hospitality of the local construction-foreman, and spend the night on his living-room floor, while he, his wife, who looked like a Calmuc, and his family of five or six flaxen-haired children bundled into a small ante-room.

Next morning with four coolies to help carry our baggage, we set out for the woods. Before going far we were opposed by the same stream, or small river, which Nicholai and I had crossed the year before by means of a raft. This time, however, we were more fortunate, as we found a couple of dug-out canoes, heavy, clumsy and shallow things, which required a deal of careful handling. None of the Chinese knew how to use the punt pole, and it fell to the lot of us whites to get the baggage across in safety. Easier said than done it seemed, for Nicholai, who had proved so expert in getting the raft across was an absolute failure with one of the dug-outs. In his first attempt he failed to keep the canoe's nose pointed in the right direction and in a moment was being carried down stream. Losing his head he made a wild jump, but fortunately landed in shallow water, and was able to grab the rope of the canoe ere it was swept out of reach. How he failed to upset the crank craft when jumping is a mystery. After this Schroder took things into his hands, and with marvellous dexterity got the clumsy little craft across the swift current, and landed the first load in safety. In like manner the rest of the baggage, with the taxidermist, Nicholai and myself were safely got across. Wang and the four coolies, meanwhile crowded into the second canoe and essayed a crossing. They did very well till just as they were almost across the swiftest part of the current, and were about to enter an eddy, the nose of the canoe bumped against a submerged tree stump, and over went the whole contrivance. Immediately the current caught the struggling men and began to carry them, clinging desperately to the overturned canoe, down stream at an alarming rate. We in the

first canoe were now in the deepest part of the stream and could do nothing without upsetting our own cranky boat. Schroder worked desperately to get to the shore in time to render assistance, but it looked as if nothing could prevent a fatal issue, when Wang left his hold of the overturned canoes, and with wild overarm strokes began swimming for the shore. He succeeded in reaching a projecting tree stump where he hung till we got ashore and rescued him. Then it turned out that he had hold of the rope of the canoe, and we were able to drag the four frightened coolies, who had never left go their hold, ashore. The bread that we had cast upon the waters had returned to us after not so many days! Wang's thought for his fellows in keeping hold of the rope as he splashed desperately for the shore, had undoubtedly saved their lives, for the stream went over some bad rapids a little further down.

When all was ready, sodden clothes wrung out, and loads properly adjusted, we set off once more. We headed for my old camp site.

Nothing unusual transpired as we marched through the reeking swamps and tangled undergrowth; and we made our destination by about noon. What a change had come over the place, since last I saw it! Where the grass and herbage had reached to the knee the year before, it now overtopped our heads. The unusual dampness of the season had caused a corresponding increase in the growth of the clearings. Nicholai shook his head as he climbed a stump to get a view of our surroundings, and gloomily prophesied that we should meet with failure in the wapiti hunt. How could we ever hope to get a sight of a deer in such a jungle?

Not to be discouraged, however, by his forebodings, we set about preparing camp, and in less than half an hour, aided by the willing coolies, had cleared a large patch of grass and weeds, erected our tent, and started a fire. Here was where I received my first lesson in woodcraft from my new teacher.

I gathered some small dry looking twigs and grass, and then bade the natives haul over some larger branches. In the usual way I laid and lit, or rather tried to light, a fire; but the stuff would not catch. Everything was literally sodden. The weeks and weeks of wet weather had had their effect, and the twigs and grass though seemingly dry were far from it. In the ordinary course of events I and the natives around me, Nicholai included, would have worked at the damp stuff till it smoldered

and finally caught; but at this point my companion took the job in hand. The first thing he did was to pick out a tall dead tree standing near by, and with a few deft strokes of our big axe, which he had insisted on bringing from Tientsin, brought it crashing down, in such a position that it lay pointing towards camp, its topmost branches being but a few feet from the spot chosen for the fire. Then he proceeded to cut it into suitable lengths, one of which he deftly split up and subdivided, and, behold! we had a neat pile of good dry fire-wood. Next he took one piece of wood, and with a jack-knife whittled it down, leaving the slivers attached and so forming a sort of brush. To this he placed a lighted match. It burned brightly at once, and readily ignited some of the smaller pieces of firewood, and so on till we had a bright fire going. The whole performance had taken not more than a quarter of an hour.

And the lessons to be learnt, as explained by the woodsman were :—

1. Never trust to small twigs and branches if you have an axe and can cut big wood.
2. Standing dead-wood is always better than fallen timber, the former usually being dry even in wet weather, and the latter always sodden and damp.
3. Slivers of dry wood are better than grass or seemingly dry twigs for kindling.
4. In choosing a tree for fire-wood pick out poplar, lime, cotton-wood or conifers in preference to oak, walnut or elm.

Once having been told these simple facts the reason for them is obvious; and one wonders why one ever tried anything else; yet how many a man has blundered on never knowing them, or, at best, only finding them out by degrees, putting up in the meanwhile with untold inconvenience.

Another thing about a camp fire that my companion shewed me was the placing of two green logs, one on either side of the fire. These concentrated the heat of the burning wood, served as guard for our hands while using a frying pan, and, when we did not require the fire, nursed the live embers, so that we could leave the camp for long periods, and come back to find our fire still burning. Little things like these make all the difference, if the struggle for existence in the forest becomes acute.

After we had had our midday meal we lay about smoking,

waiting for the evening before we went to the big swamps in search of deer. The conversation drifted on to the topic of camp furniture, and I was bemoaning the absence of my camp chair and table, when the American said that we could easily have a table, and in place of chairs a bench. I expressed my doubts, and said I failed to see how he could make such things with only an axe. That was enough for him; and up he jumped, axe in hand, ready to teach me yet another lesson. Choosing two lengths of the tree he had cut down for firewood, he split them down the middle, and with a few swift strokes trimmed each half into a board. Next he cut four stout saplings, with branches that forked conveniently. These were also cut into suitable length, and the ends opposite the forks sharpened. Two stout and straight sapling stems completed the component parts of the table. The four forked pieces were driven into the ground till they stood firm and rigid at the angles of a square. The straight stems were laid across the forks, and then the four boards were placed across the stems, and our table was ready for use. For the bench a small tree was felled, the trunk taken and one side trimmed flat, and the whole laid in the forks of four pieces of wood driven into the ground so as to form two exes. These simple, but thoroughly efficient, contrivances for our comfort caused no end of interest, and surprise to Nicholai and the natives. None of them, though they had spent much of their lives in the forest, had ever seen such dexterity with the axe, or simple ingenuity in making such use of the material that lay at hand. Here was a man who needed only a gun with ammunition, an axe, and a box or so of matches to be able to survive in the primeval forest for months. With the addition of some blankets, a saucepan, some tea, a line and some fish-hooks he would be independent of civilization altogether.

Nicholai could survive in the forest for a certain time, but he would be depending upon his physical endurance to see him through. He could rough it to an extraordinary degree: my friend could live in comparative luxury and comfort. The Chinese with a bag of millet, a pot to cook it in, and a few matches, could manage to live in the forest so long as the millet lasted, and they could make the millet last an uncommonly long time, but here again it would be a question of physical endurance. With my companion it would be a case of eliminating fifty per cent. of the hardships that the others would endure. He could build a shelter as easily as make a table; he could make a comfort-

able bed as easily as a log bench, and for the rest hunting and fishing would supply the needs of his inner man.

As the day drew to a close, Nicholai, Schroder and I visited the great nigger-head swamp, which lay a couple of miles to the east of our camp. We plodded across to one of the islands and inspected it for possible signs of wapiti. It did not take us long to decide that our chance of getting a shot at the deer lay in watching the swamp morning and evening from this island; for on every hand were the tracks of the quarry we were after.

Accordingly we returned to camp, and next day Schroder and I visited the island once more, and with axe and rope fixed up a couple of perches in the birch trees, so situated that between the two of us, we could command the whole swamp.

That afternoon we carried our blankets and some provisions to our island, made our beds, arranged our mosquito nets, cut some dry wood for a fire, and then climbed our respective perches and spent the next two hours watching. Nicholai, meanwhile, had returned to I-mien-p'o on business, but said he would be back soon.

While scanning the swamp from my post of vantage, I saw a beautiful roebuck come out from the forest and wander about, but I did not shoot him as I was watching for royal game. Many birds came and went. Now it would be a flock of azure-winged magpies, and now a troop of long-tailed titmice. Then a wood-dove, or the oriental turtle dove, to give it its correct name, would come rapidly through the air and light upon a neighbouring tree, or a hawk would swoop past, on slaughter bent, as it chased the yellow-breasted buntings into the cover of the deep grass of the swamp. As daylight waned the ubiquitous night jar could be seen, and then the lone, sad hoot of an owl would be wafted from the woods.

For the first hour my position was pleasant enough; then the mosquitoes discovered me, and the rest of the time was torture. By the time darkness had enveloped the swamp, so that I could honestly give up my vigil, my face and hands were a mass of bites. I got a fire going and boiled some water, making some tea. Then my companion came, and "with language unsainted" anathematized things in general and the winged hosts in particular. Neverthless, he had something to report, for soon after he had taken up his position in his tree, a wapiti doe with her fawn had entered the clearing from the forest opposite him, and had

wandered about quietly feeding, just as my roebuck had done. The fawn, he said, had frisked about like any lambkin, causing him much amusement.

If wapiti hinds were about we might expect to see bucks as well, for the rutting season was close at hand, so we retired after supper feeling very well satisfied, and were soon fast asleep, safe from the attacks of mosquitoes under our nets.

Early next morning we were back in our perches, this time full of hope. It was bitterly cold, and we had got thoroughly soaked by the dew from the foliage as we took our posts, but at least the mosquitoes were not astir, which was a comfort.

As the light of day revealed the distant woods, we found to our disgust that the whole swamp was hidden by a heavy mist, which, however, slowly receded towards the woods, where it hung like a pall.

Presently the air was rent by a shot from a rifle. A bullet whined over my head. Another report followed and then another and another—five in all, and then silence. My heart was in my mouth. I could hear nothing; see nothing. My mind pictured a band of *hunghutzu* lying in the brush in the wood taking pot shots at me or my companion as we sat perched in the trees. I could not tell where any bullets had struck, but the angry whine as they passed overhead made them feel uncomfortably close. Before long my companion came through the brush and asked me what I had got. He had been on the opposite side of me from that where the rifle or rifles, we could not tell which, had been fired, and had supposed that I had seen and fired at something. I told him it was not I that had fired, and then he said it must have been Nicholai, for he had seen that worthy nimrod making his way eastward along the edge of the clearing.

Of course! I had forgotten Nicholai. He must have returned from I-mien-p'o earlier than he had intended doing, and had straightway come to look for us.

There was nothing to do but brew a pot of tea, have breakfast and return to our main camp and get some dry things on. Presently we heard Nicholai calling, and, making our way to him, we found him standing over a beautiful wapiti doe. The rascal! he had come to find us, and on reaching the edge of the forest had seen a stag and two hinds standing only a hundred and fifty yards away. Opening fire at once, he had only succeeding in knocking over one of the hinds; the stag and the other hind making their escape into the forest. And the worst of it

all was that the deer had been standing not more than fifty yards from me, but had been completely hidden by the mist, which had clung mysteriously to the clump of saplings which partially sheltered them. I could not help feeling annoyed, for there is little doubt that when the mist lifted, as it did soon after Nicholai opened fire, I should have had a good view of the deer, and I think I could have been certain of getting the buck.

This incident must have frightened all the wapiti from the immediate vicinity, for though we watched night and morning for over a week we saw no further sign of the deer.

We dragged the carcass of the doe to the shelter of the wood on the side nearest our camp, and there skinned it. Taking the skin and some of the flesh we set out for camp, leaving the rest of the meat carefully hidden under a log in an adjacent stream.

We now had plenty of meat at any rate; but my mind kept turning regretfully to the stag that had escaped. It was altogether too tantalizing being robbed thus a second time of a shot at a stag by that rascal Nicholai and fortuitous circumstance. But it was not really Nicholai's fault for he was not to know that I was so near the deer when he fired.

He took a goodly portion of the doe back to I-mien-p'o, where he sold it at a good price; while Schroder and I continued to hunt the elusive wapiti. One morning two days later, when we wanted some more meat for use at the camp, we visited the place where we had left the haunch of venison in the stream to cut a steak or two. We found that our cache had been pillaged, and a part of the haunch together with the draw (lungs, heart and liver) dragged from the stream and partially devoured. An examination of the ground showed that a yellow-throated martin had discovered the meat, how I cannot say, for it had been placed a good foot below the surface of the swiftly flowing stream. He had succeeded in dragging it forth, and consuming several pounds of it. That the animal had done it alone was shewn by the absence of any other tracks, either on the bank or round the meat itself.

Needless to say we left this excellent bait undisturbed, and set traps all round it; but neither the original thief, nor any other of the forest marauders visited the spot again; and we had to be content with the loss of our good meat.

On the second night of our vigil at the swamp, we lay down under a clear sky, little thinking of what we were to go through ere morning. At about ten o'clock I was awakened by a drop of rain upon my face, and a few minutes later a steady down-

pour was upon us. It kept on all night, and we were both drenched. I could feel a continual trickle of cold water down my back, and soon I was lying in a deep pool. All I could do was to wrap my blankets tightly round my body, curl up in order to keep as warm as possible, and trust to luck not to contract any evil effects. It was a miserable night, but at last daylight came, and we lost no time in packing our sodden things and getting back to our main camp, where we spent the rest of the day drying them over the fire. Several days passed before they could be proclaimed thoroughly dry.

It continued to rain off and on for several days, with the result that we got many more wettings, besides being continually soaked up to and above the knees each time we made the trip to or from our island in the swamp. We were not caught again at night, however, for we took the fly of the tent and set it up as a canopy.

There was no way of overcoming the mosquitoes. The year before I had found them bad only at the edge of the marshy clearings; at camp we had been free from their attentions. This year, however, they swarmed everywhere, and our sufferings on this account were great. Fortunately there were no horse-flies, so we were spared one of the horrors of the Lower Sungari district. But for the mosquitoes I think I should have enjoyed the stay in this forest more than the year before, for there seemed to be so much more of interest.

I discovered a greater number of rodent tracks in the mud along the streams, and, setting traps, secured specimens of my new wood mouse, the Manchurian field mouse, the great grey hamster, this last for the first time in the forest itself, and the red-back vole. Besides these there were large numbers of chipmunks, as well as the large brown rat.

One day while I was away from camp a tiny weasel came nosing round, attracted doubtless by the smells from our larder. En Pei set a trap, baited with the carcass of a vole and caught the little fellow. On another occasion a flying-squirrel was seen to leap out of a hole in a dead tree that Nicholai was cutting down. En Pei shot at the desirable creature, and it fell amongst the ferns, where it mysteriously disappeared, nor could all our efforts trace it. The tree itself when chopped down and split open, yielded the form of a small grey-brown mouse, which Nicholai caught. It turned out to be a nice specimen of *Sicista*, subsequently being identified with Buchner's *S. concolor* from

Western China, a small long-tailed mouse that appears to be somewhat rare. Anderson secured a species of the same genus in Saghalin Island, which was named *S. caudata*, by Mr. Oldfield Thomas.

While at the island camp, after we had turned-in one night, I became aware of some little bats that kept swooping down and catching mosquitoes hovering over my face. I determined to catch specimens of these little animals, and so sat up, cap in hand, and every time one passed aimed a blow at it. At last my efforts were successful, and I secured a specimen, which turned out to be *Myotis ikonnikovi*, Ognev.

During my wanderings in search of specimens I found many signs of bears in the vicinity of our camp. There was a sort of elder growing abundantly, whose sour juicy fruit the bears seemed to like, for everywhere these bushes had been broken down and large quantities of the fruit eaten. Then there were the choke-cherries, branches of which had been pulled off from the trees, and stripped of their fruit. The bears had made for themselves regular, well-beaten paths all along the banks of the stream.

A native employed on the railway caught a fine young otter, which was offered to me alive for ten roubles. I offered five and waited for a reduction in the price on the part of the native. Next day to my disgust the skin, rather badly torn, was brought round and offered to me for seven roubles, and finally for five, but I refused to buy it as the skull and carcass had been disposed of, and it was no good as a specimen. I blamed myself for not having purchased it right away; but it is seldom that a Chinese runs the risk of spoiling a deal like this. As far as I could see, however, the otter was just like the European species. They told me there were a good many of these animals in the stream, but I was not fortunate enough to see any.

One morning as Schroder and I were walking back from the swamp, we separated at a point where a second deer-path joined the one we had used, as I wanted to find where it led. I soon found myself in another swampy clearing, where the path divided up into a number of single trails, so I turned and cut across towards the path taken by my companion. Just as I reached the edge of the clearing I could hear him pushing through the brush. Then I became aware of something moving ahead of me, and climbing on to a log was just in time to see a beautiful roebuck sneaking stealthily away. It caught sight of me as I

raised my rifle and in a twinkling was bounding away through the tall grass of the swamp; nor could I see anything of it, but its head and neck as it rose and sank in the sea of verdure. Two days later a little Russian hunter that haunted the vicinity got a roebuck close to this very spot.

This little hunter made our acquaintance one day while we were preparing lunch at camp. He came tramping through the forest, with pack on back and rifle in hand, and as he ran upon our tent, a grunt of surprise escaped him. He was a little wizened man from the Baltic provinces, and it did not take long for my companion to get into conversation with him. We learned a good deal concerning the possibilities of the chase in this district, for the little fellow was not only a fount of knowledge, but was sportsman enough to tell us what he knew. Yes, there were tigers about. Only yesterday he had seen the fresh track of one ten miles to northward. The wapiti were late in commencing to roar; there were five or six does in the vicinity, but as yet no big bucks. These were all miles away hiding in the densest part of the forest. They would come to the clearings later. *Cazuli*, (roedeer) were plentiful, but, owing to the tall herbage, difficult to shoot. Bears? Oh yes. He had seen several this season, and so on.

He was delighted with our table, and condescended to join us at the board; then, after having a smoke and a dish of tea, he shouldered his pack, and bidding us adieu, was soon lost in the forest once more. A few days later, while my companion was perched in a tree watching for wapiti in a swamp a couple of miles further on beyond the one we first tried, he saw the little hunter come quietly out of the wood, scan the swamp carefully, and then with scarcely a sound sneak up to the very tree on which the watcher sat, and commence to make his preparations for the night. His surprise can be imagined when Schroder addressed him from the green canopy over his head. The man's preparations for the night consisted of making a little hollow between the tussocks of grass, wrapping a cloth round his head and curling up like a dog; nor did he move till daybreak. That night a roedeer blundered on to the sleeping couple, and its surprise and terror could be heard in its wild snort and subsequent barks as it madly fled the spot.

One of the chief charms of this waiting and watching for our quarry was the splendid opportunity it gave us of watching animal life generally. There were large numbers of field mice and voles

on the islands, and these used to come out at dusk and pick up the crumbs that we dropped as we ate our evening meal. They were very bold, and I succeeded in getting one actually to take a bit of dried salmon from my hand. On more than one occasion I tried to catch one under my cap, but they were much too quick for me. At the slightest noise or any unusual motion the little mice would jump, that was all. It did not seem to matter where they jumped. It might be a long jump forward, or a high one to the rear, to right or left, or straight up in the air; but it always saved them. Imagine, then, the quickness and silence of the owl that can swoop down and catch these little beasts, ere they can make that jump that baffles the human eye.

The swamp itself was a veritable play ground for certain species of birds, notably buntings and finches. These could be seen flitting from tussock to tussock, while overhead the sharp-eyed kestril hovered, watching his chance to pounce upon some careless member of the smaller feathered fraternity.

There was one place in the swamp that was very dangerous, and I nearly came to grief in it. It was a large patch, free from nigger-head grass. Only deep moss grew there and a fine sort of grass about six inches in length. This moss, pink, yellow orange, and pale green in colour, would sink under one's feet in a most disconcerting way. Suddenly as I was crossing one of these patches, my feet went through, and I saved myself only by throwing myself back upon the firmer moss I had just left. I felt a little upset as I got to my feet again, and returned the way I had come. Subsequently I cut a fourteen foot sapling and plunged it through the moss to test the depths. The pole did not touch bottom. Nicholai said that these places occurred everywhere, but that in time the moss gradually filled them up, and then nigger-head grass, and young birch trees would appear. It was his opinion that the whole swamp was originally like this, and I could well believe it, for there never seemed to be anything but grass, moss and a tangle of roots under one's feet, no matter how deep they sank.

We noticed that the bird migrations had commenced and so kept record of those we saw. At dusk it was a common thing to see a large species of swift flying about over the camp. One day, after I had given up watching at the swamp, I succeeded in bringing one of these down, and it turned out to be a spine-tailed swift (*Hirundapus caudatus* Latham) which is about half as big again as the common swift and double the weight. It

derives its name from the fact that the central shaft of each tail-feather is stiff and ends in a sharp spine. The body is a brown colour, the long wings of a glossy black with a blue-green sheen. The bird I shot had its huge mouth full of insects, chiefly coleopterons. In the pursuit of these the birds above us performed their graceful evolutions, swooping, diving, turning, circling and rising high in the ambient evening sky.

On two occasions as we sat at our evening meal we were startled into excitement by the sudden appearance of a woodcock, which circled once or twice round our camp and then disappeared into the gloom. Every evening a flock of Mandarin teal used to visit a deep pool in the neighbourhood, and several times while we were watching for deer in the swamp some passed overhead. By lying in wait at the pool on various occasions I managed to get four of these little ducks, though as yet none had assumed the gorgeous mating plumage. During the summer and until the autumnal moult has taken place, the males are like the females, dark olive-brown with mottled breast, white eyebrows, white belly and white edgings to the flight feathers. But when they assume their bright plumage they are the most wonderful of all the duck family, with their purple-bronze crest, golden-brown hood, maroon chests, vermiculated flanks and gorgeous red-brown and green wing plumes that stand up on their backs.

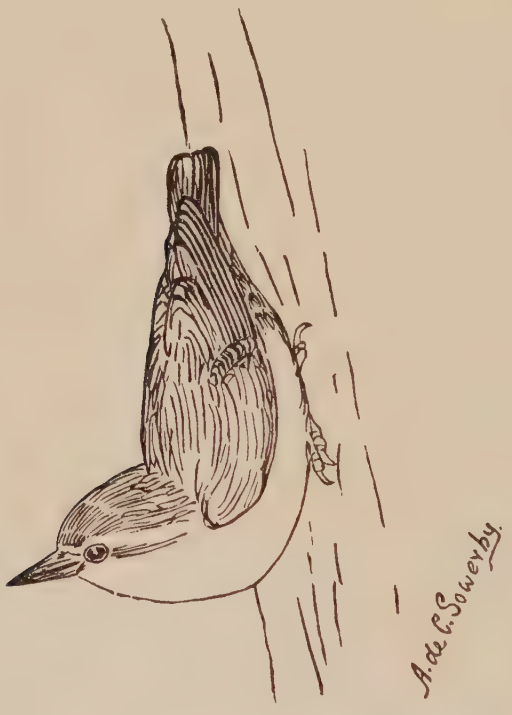
It was strange how, as regularly as clockwork, the flock would appear at a given hour—it was about six o'clock if my memory serves me aright—circle the clearing once or twice, and then dive headlong for the pool. Then would commence a splashing and quacking as the birds disported themselves. They would get out of the water on to a log that lay across it, and dive off again, chasing each other about in their mad revels. I could only conclude that they came to the pool to play, for there seemed to be nothing special in the way of food. During the day we frequently saw them in pairs in the streams, where they were feeding. It was only in the evenings that they seemed to gather into flocks, evidently for sociability's sake.

The nightjar was another regular evening visitor, while occasionally a roller would appear at the very top of one or other of the tallest trees that stood in the vicinity, roll out his derisive shout and be off again before anybody could get near enough with the gun to get him.

Hazel grouse were frequently heard, but only once did I succeed in bagging one. They were extraordinarily hard to see

in the dense foliage, nor was I successful in calling them with the quill-whistle that Naribia had given me, and which he used so skilfully himself.

Woodpeckers were seen a few times in the clearings, but I missed the little nuthatch that had been so common the year before, which fact led me to conclude that this bird is to a certain extent migratory, being more of a winter resident in these parts. Probably it retires to the mountainous areas of Heilungkiang and the Amur Province during the summer. One or two appeared before we left the vicinity.



The Amur Nuthatch.

Of the admittedly migratory birds the commonest species noticed at that time were the hawfinch (*Coccothraustes*), the dusky thrush (*Turdus eunomus*, Tem), the yellow-breasted bunting (*Emberiza aureola*, Pallas), the common bunting (*E. rustica*, Pallas), the willow wren (*Phylloscopus*), the chat (*Saxicola torquata stejnegeri*, Parr.), the redpole (*Linaria*), shrikes (*Lanius*), and ducks of various kinds.

The large Oriental turtle-doves were at first few and hard to approach, but later their numbers increased, till the woods were full of them. Evidently they, too, were migrating, though they seemed to dally in the same way that the green-woodpeckers did, and not to be so palpably on the move as the hawfinches, shrikes and thrushes. Indeed, I am not altogether satisfied that the green woodpecker is more than a very partial migrant. The hawfinches and shrikes passed from tree to tree in a steady stream, during the early mornings. It is interesting to note that at the commencement of the migratory season the bird movement took place only in the early mornings, but towards the end, and especially at the very last, as I witnessed the year before, there was one continuous stream of birds travelling southward all day. Moreover the first flocks of migrants did not always move in one direction, but sometimes travelled east or west, and occasionally, even, back the way they had come. This may be accounted for by the first birds not finding the berries and other delicacies, upon which they feed, in just the state of ripeness that they like, and so flying in all directions in search of sustenance. Again it may be due to the weather or temperature. In any case there is no dallying when the cold weather, heralded by a strong north wind about the end of October, is due.

There was one bird that I saw in the island in the swamp which I felt sure was the local representative of the Siberian jay (*Perisoreus infaustus maritimus*, But.); it certainly was neither the ordinary jay, *Garrulus*, nor the nutcracker, *Nucifragà*. It sat in a tree for some time looking at me, ere it flew away chattering. This was the only occasion that I saw this bird in Manchuria.

I noticed several new plants this time, amongst which was a monk's-hood, or *Aconite* which had a climbing or trailing habit of growth like a convolvulus. It grew in the clearings, and climbed about the tall grass-stems. The blossom which was shaped like that of our garden form, grew in spikes of six or more blooms, and were of a pale purple colour.

In the pool where the Mandarin teal played each night the peculiar water hyacinth with mauve-blue flowers and hollow, bulbous leaf-stalks that keep the plant afloat, grew thickly and was in bloom at the time of our visit. It is known to science under the generic name of *Eichhornia*, but as far as I know the species has not been identified. In appearance it closely resembles *E. speciosa* from Tropical South America, specimens of which are on exhibition in the Royal Botanical Gardens at Kew.

It has been suggested to me that the plants I saw had been introduced somehow by human agency, as Manchuria is right out of the normal habitat of this genus. I cannot agree with this, since the pools where these plants occurred were in the heart of the primeval forest in newly opened country.

One day I found a path in the woods that looked as if it had been much used of late, so followed it for about a mile when I came to a clearing in which stood a log hut. The clearing and hut had just been vacated, and I found a large pile of the stems of the opium poppy lying beside the hut. Indeed, in parts of the clearing the poppies still stood, the pods still uncut. Several times before I had come across similar clearings, and noted dead poppy stems, but this was the largest I had seen. Enquiries of the Chinese elicited the fact that throughout the whole forest area there was a profitable opium growing industry that was winked at by the officials, and this while the Chinese Government was assuring the representatives of the British Government that opium growing was being suppressed. The opium planters of the Manchurian forest are said to be a desperate lot of men, worse than the *hunghutzu*, but it is more likely that the opium growers and *hunghutzu* are one and the same, the latter indulging in this profitable business at a time when highway robbery is not the paying game that it is in winter.

After a while we struck camp and moved back to the bank of the river near Samafalo. Here was a deserted log hut in good repair, and we occupied it. We had found a way from it to our watching posts in the swamps, and it further had the advantage of being nearer the railway and consequently to our source of supplies.

Heavy rains had caused the river to rise and for a day or two we were absolutely cut off, but when we were able to cross Schroder and I paid a visit to I-mien-p'o, and there learned that the bears were beginning to come down to the maizefields, and word had been sent in from several outlying farms to the local hunters to come and destroy the pests. Nicholai received a summons and asked us to go with him, which was too good a chance to be missed, so we decided to stay the night in I-mien-p'o and go next morning on our bear hunt, leaving our camp at Samafalo to the care of Wang and En Pei for the time being.

A heavy mist invested the sleeping town of I-mien-p'o as Nicholai, Naribia, Schroder and I stole quietly through the streets in the early morning to the bank of the river. A small pack of

four dogs was with us. There were Damitchka, Mishka and Djuke, with whom the reader is already acquainted, and one of Damitchka's last year's puppies. Poor old Rasboi had disappeared some time during the previous winter. He had just gone out into the forest and not returned; and Nicholai with a heavy sigh shook his head as he told me about it. Never would he hunt with such another dog! And so the place of the veteran of many a chase was taken by a mere pup, one of his own offsprings it was said.

As we found all the boats on our side of the river locked to their moorings, while the public ferry was on the other side, we tried by hallooing to wake the ferryman, whose cottage could be seen dimly through the mists, but we might as well have tried to waken the dead. Once asleep your Chinaman is the hardest creature on earth to waken, so it is not surprising that Naribia had to ford the stream and bring the boat over to us.

For all the good it did us we might as well have forded the river ourselves, for so drenched with dew was the rank foliage that almost hid our path, that in a few minutes we were wet to the skin, and our boots squelched soggily as we tramped.

We followed the valley of the river for a few miles, and then turned up that of a small side stream; all the while passing through the most entrancing scenery. Each of us carried a small pack, for we had to be prepared for several days sojourn in the woods, as there could be no certainty of our catching Bruin the first day.

Every now and then we passed smiling farmsteads, but these grew fewer and farther between as we ascended the valley. Nicholai pointed out various spots of interest to him. There he had shot a lynx, and there a fine wapiti, with big horns, in days gone by, when I-mien-p'o was but a scattering of small huts. That mysterious looking ravine with its great oaks and walnut trees had yielded three bears, and so on.

We noticed that the forest was getting thicker, and the path less used. Soon the branches of the trees met overhead, and the gloom of the forest settled round us. Once, as we passed through a small clearing, a big fat woodcock was flushed. An occasional small warbler was to be seen, but on the whole bird and animal life was scarce. I made one interesting find, however. While taking a short rest I turned over a decayed log, and under it found a salamander, (*Salamandrella keyserlingii* Dybowski), not one of the brightly coloured forms, but a dull greyish brown and blackish

animal, not unlike a newt that has lost its crest. This was the only specimen of anything of the sort I came across in Manchuria.

At last we began a sharp ascent, and finally at about ten o'clock we reached an extensive clearing at the very head of the valley, on the far side of which the thatched roof and blue smoke of a log cabin could be seen. Rows of ripening maize and beans filled the clearing, whose rich black soil reeked fatness. The farmer made us welcome, and at once plunged into a description of the depredations of the bears, and the various night adventures he had had in trying to drive the marauders away. A group of labourers stood round and swore to the truth of his statements; while a Chinese hunter, whose aid had been invoked, was quietly packing his belongings, realizing that now the great Nicholai had appeared on the scene there was nothing more for him to do.

Soup was made and we had lunch, after which we were taken to see the damage done by the bears. Sure enough, in a field across the ridge there were plenty of fresh signs. The tall maize stems had been pulled down in all directions and half-chewed cobs strewed the ground. A careful examination of the edges of the clearing soon revealed the fact that a large bear came and went by a series of regular paths that had been beaten in the undergrowth, and since the farmer assured us that he paid a visit every night to gorge on the sweet corn we decided to sit up and wait for him. We chose, each of us, an observation post in a tree close to one of these paths, and at five o'clock took up our positions.

There was a sort of suppressed excitement about Nicholai that soon communicated itself to the rest of us. I for one felt that something was going to happen, as I sat in my perch over a well-beaten bear-path. I could see Schroder in a solitary tree a few yards inside the clearing. The other two were hidden from me. A slight noise to my right made my heart thump, but all I could see was a chipmunk playing about the windfalls. Then I distinctly heard a twig snap in the woods behind me, and I turned my head slowly round and tried to see through the dense underbrush. I heard it again and then dead silence followed. A dove flew across the clearing and settled on a tall dead tree, whence its mournful call rang out on the evening air. Overhead the clouds raced before an easterly wind, promising rain before long. How I wished I could smoke! How uncomfortable was my seat! How ..... Bang!! I nearly feel from my perch. It was Nicholai who had fired; but why was there no sound of a wounded animal thrashing in the brush, or the wild stampede through the bushes of a

badly frightened one? Had the silly fellow fired at a log or discharged his rifle accidentally? If so we need expect no bear that night; so whistling to let the others know I was leaving my perch, I climbed down and made my way towards Nicholai. I soon came upon that worthy person standing in a tangle of wild vine, and looking about him in an excited and puzzled sort of way. He snapped out the one word *midvét*, the Russian for bear, and I experienced a gentle thrill as I realized that he had fired at a bear, which he believed to be somewhere in the scrub. A wounded bear is no joke, however, and I proceeded with caution. Nicholai could not say whether or not he had hit it, but thought he had. I was working cautiously round in a circle with my rifle ready, when, as I stepped on to a windfall I nearly jumped out of my skin. A huge black form lay at my feet, but I need not have been startled for it was stone dead. Nicholai came up and said that that was just where he had seen and fired at the bear. It had stood with its forepaws on the log sniffing the air, so, when he aimed and fired, and the bear had promptly disappeared. But where was the animal hit? There was not a drop of blood, nor any sign of a wound. I chaffed Nicholai about his marksmanship, for he was not a very good shot, telling him that the bear had died of fright. It was not till we skinned the brute that we found a tiny hole in the back of the neck, the bullet having entered the spinal column just behind the skull. Nothing could have been neater, but Schroder and I could not help regretting so tame an ending to our bear hunt. We had anticipated an exciting ten minutes with Bruin dodging about in the maize-field, or, better still, a chase through the forest with the dogs, which had been locked in the hut with instructions to be freed as soon as a gun was fired. Indeed, as we stood thus admiring the great bear, for he really was a beauty, over the hill came Damitchka followed by the others, and in that earnest business-like way of hers, sailed into the huge carcass and began to worry at its stomach.

The bear was a full grown male of the crescent-breasted species, *Selenarctos ussuricus*, Heude. He weighed about four hundred pounds and measured exactly six feet from the tip of the nose to the tip of the stubby little tail.

We got the carcass up to the cabin, and by nine o'clock had it skinned; and so ended my fourth and last bear hunt in the I-mien-p'o district.

It turned out to be my last hunt in Manchuria, for not many days later, I received news of my wife's illness in Tientsin, and

hurried back to that town, leaving Schroder and Wang to carry on the work for a time.

They visited the forest beyond Yablonai, as I had done the year before, and the former was successful in bringing down a fine wapiti stag, a ten-pointer, with a good even pair of antlers.

It seems that it was during the time when the roaring was in full progress, and they had worked well into the forest. They were working along a ravine, where the scrub was dense, but the trees not too thick, when the stag suddenly broke cover, and went bounding off up the opposite slope. Nicholai fired but missed; then Schroder fired, and the deer came rolling down the slope with a broken neck.

And so ended my last expedition into the Manchurian region, for the time being at least; but though, owing to the prevailing conditions, I was unable to visit the Amur and the Ussuri, I gathered enough information on these areas to be able to say, that, so far as their Natural History is concerned, they may be classed with the Kirin and Heilungkiang forest areas, as one huge region, which, in turn, may be considered as an extension of the Siberian forest belt.

Bibliography.

BIBLIOGRAPHY.

Adams, Arthur.	Travels of a Naturalist in Japan and Manchuria, 1870.
Anert, E. E.	A Journey through Manchuria (Exp. 1896 and 1897-98) : Mém. Imp. Russ. G. S. (Gen. G.) 35, p. 56, 1904.
Bogdanovitch, K.	Description geologique de l'extrémité sud de la presqu'île de Liao-toung (region de Kouangtoung) et de ses gisements d'or, 1900.
Brindle, E.	With Russian, Japanese, and Chunchuse. The Experiences of an Englishman during the Russo-Japanese War, 1905.
Broughton, W. A.	Voyage of Discovery to the North Pacific Ocean; performed in H. M. S. Providence and her Tender in the years 1795-98, London, 1804.
Chavannes, Edouard.	Voyage archéologique dans la Mandchourie et dans la Chine septentrionale.
Cholnoky, Eugen von.	Kurze Zusammenfassung der osotektonischen Verhältnisse der südlichen Mandschurei, 1899.
Christie, Dugald.	Thirty years in Moukden, 1883-1913. 1914.
Cordonnier, Col. E. L. V.	Les Japonais en Mandchourie, 1912.
Cotes, Everard.	Signs and Portents in the Far East, 1907.
Douglas, A. J. A.	Sport in the Wilds of Manchuria : Travel and Exploration, Vol. III, p.p. 370-377, 1910.
Douglas, Sir R. K.	The Story of the Nations, China, 1899 and 1912.
Edwards, E. E.	Manchuria the home of the Manchus : Queensland Geo. Journ., 1910-12.
Fenneman, N. M.	The Geography of Manchuria, Physical and Strategic : Geo. Journ. 4 (1905) pp. 6-11.
Fleming, G.	Travels on Horseback in Mantchu Tartary, being a Summer's Ride beyond the Great Wall of China 1863.
Fraser, E. H.	The Fish-skin Tartars : Journ. China Br. Roy. Asiat. Soc., 28, pp. 1-43, 1894.
Fulford, H. E.	Report of a Journey in Manchuria : Despatch from H. M. Minister at Peking, 1887. China, No. 2.
Gerare, Wirt.	Greater Russia, The Continental Empire of the Old World, 1904.
Hawes, C. H.	In the Uttermost East, 1903.
Hosie, (Sir) Alexander.	Manchuria, its People, Resources and Recent History, 1901.
Hrdlicka, Dr. A.	Remains in Eastern Asia of the Race that Peopled America : Smith Inst. Misc. Coll., Vol. 60, No. 16.

James, (Sir) H. E. M.	The Long White Mountain, or A Journey in Manchuria, 1888.
Kemp, E. G. (Miss).	The Face of Manchuria, Korea, and Russian Turkestan, 1910.
Klado, Capt. N.	The Russian Navy in the Russo-Japanese War, 1905.
Kuropatkin, Gen.	The Russian Army and the Japanese War, 1909.
Laufer, Dr. B.	The Decorative Art of the Amur Tribes, 1902.
MacGowan, Rev. J.	The Imperial History of China, 1906.
Manchuria, and Corea.	An Official Guide to Eastern Asia, Trans-Continental connections between Europe and Asia, Vol. I. Prepared by the Imperial Japanese Gov. Railways, 1913.
MacCormick, Frederick.	The Tragedy of Russia in the Pacific. 2 Vols. 1909.
McPherson, Dr. D.	The War in China, 1843.
Middendorff, Dr. T. A. von.	Sibirische Reise. Cols. I-IV. 1848-1875. Atlas, 1859.
Miller, H. B.	Russian development of Manchuria: Nat. Geog. Mag., 1904, pp. 113-127.
Military Correspondent of the Times.	The War in the Far East. 1904-1905. London, 1905.
Pallas, P. S.	Sammlungen Histor. Nachrichten üb. d. Mongol. Volkerschaften, 2 Vols. 1776-1801. etc. (See other bibliographies).
Parker, E. H.	The Russian Sphere of Influence; or a Thousand Years of Manchuria: Imp. and Asiat. Quarterly Rev. 9, 1900, pp. 287-313.
Pozdnejeff, D.	Opisanie Manchurii, 2 Vols. 1897. Issued by the Imp. Ministy of Finance, (Russian text.)
Radde, Gustav.	Reisen in Süden von Ost-Siberien, 1862.
Ross, Rev. John.	Trade-Routes in Manchuria: Scott. Geog. Mag., Vol. XVII. 1901, pp. 303-310.
Schrenck, Leopold von.	Reisen and Forschungen in Amur-Lande in den Jahren 1854-1856. 1860.
Scidmore, E. P.	Mukden, the Manchu Home and its Great Art Museum: Nat. Geog. Mag., 21 (1910) pp. 289-320.
Seaman, Dr. L. L.	(1) From Tokio through Manchuria with the Japanese, 1905. (2) The Real Triumph of Japan: The conquest of the silent foe. 1907.
Shaw, N.	Manchurian Tussore Silk, 1913.
Snow, Capt. H. J.	Notes on the Kuril Islands, 1897.

Sowerby, A. de C.	The Exploration of Manchuria: Geog. Journ., Vol. LIV, No. 2. pp. 73-89, 1919.
Turley, R. T.	(1) Through the Hun Kiang Gorges, or Notes of a tour in No Man's Land, Manchuria: Geog. Journ., Vol. XIV, pp. 292-302, 1899.
	(2) A visit to the Yalu Region and Central Manchuria: Geog. Journ., Vol. XXIII, pp. 473-481, 1904.
Ular, Alexandre.	A Russo-Chinese Empire (an English version of "Un Empire Russo-Chinois".) 1904.
Vladimir.	Russia on the Pacific and the Siberian Railway, 1899.
Weale, Putnam.	Manchu and Muscovite, 1904.
Wylie, Rev. J. A.	A Journey through Central Manchuria: Geog. Journ., Vol. XI, pp. 443-451, 1893.

Also numerous papers in the Izvestiya of the Imperial Russian Geographic Society, the Journal of the Tokyo Geographical Society, A Travers le Monde, the Scottish Geographical Magazine, etc., etc.

INDEX.

Abacan Katchini, 276.
Abies holophylla, 67.
Aconite, 329.
Aconitum lycoctonum, 111.
Acrocephalus arundinaceus orientalis, T. & S., 105.
Adams, Arthur, 295, 304.
Aex galericulata, 22, 105.
A. sponsa, 105.
Africa, 289.
Agkistrodon blomhoffi brevicaudus, Stn., 107, 163.
Agrion, 77.
Aigun, Treaty of, ii.
Ainus, 303.
Aisin Gioro, 271, 272.
Ajakit, 286.
Alaska, 275.
Aleutian Islands, 282.
Algonkians, 281.
Alin Shan, vi.
Allen, Dr., ix.
Allof, 286.
American Indians, 277, 284, 285, 289.
Amur, vi.
Amur, mouth of, 286.
Amur Province, vi.
Amur Tartars, 289, 290.
Anas zonorhynchus, 22, 177.
"Ancient Hunters", 277, 286, 287.
Anderson, Mr. Malcolm P., ix, 324.
Andrews, Mr. Roy C., 61.
Anduri, 276.
Ankula, 286.
Annamites, 289.
Antung, 149.
Apodemus agrarius coreae, Thos., 182.
Apodemus agrarius mantchuricus, Thos., 48, 103.
Apodemus praetor, 48, 103.
Arabia, 289.
Archangel, 309.
Arctic Circle, 44, 161.
Ardetta eurythma, Sw., 59.
Asilidae, 109.
Astor House Hotel, 9.
Asiatic Empire, viii.
Ascalaphus, 77.
Athapascans, 281.
Aurignacean, 279.
Austria, 307.
Austrian, 304.
Azure-winged magpie, 320.

Bean, Professor, B.A., iii.
Bedford, Duke of, ix.
Behring Region, 280.
Behring Sea, 280.
Behring Strait, 282.
Belgium, 280.
Berg, ix.
Bianchi, ix.
Biraren, 274, 286.
Bison, 281.
Black-cock, 297.
Blagoveschensk, vii, 303.
Bleaks, 262.
Bohai, 271.
Bolsheviks, 304.
Bombina orientalis, Boulenger, 49, 163.
Bonn, 286.
Boulenger, Dr. G. A., vii, 303.
Bowker, Major W., D.S.O., 4.
Brachydactyly, 285
Brachycephalic, 286, 287.
Bream, 262.
British Bluejackets, 5.
British Columbia, 284.
Bruner Bey, 277.
Buchanga atra, Herm., 177.
Buchner, 323.
Budorcas bedfordi, Thos., 251.
Bufo bufo asiaticus, Steindachner, 163.
Bunting, common, 328.
Buriats, 289.
Buriatic Mongols, 277.
Burieja, 286.
Burmese, 289.
Bushman, 277.
Butterflies, 263.
Buturlin, ix.

Callianassa, 178.
Calmuc, 316.
Camberoides dauricus, Pallas, 58.
Canterbury-bell, 111.
Cantharides beetle, 108.
Canus griseoviridis, Clark, 48.
Carabus, 261.
Carabus schrenckii, Mentr. 43, 107.
Carabus vietinghovi, 107.
Carpathians, 282.
Cassis strigata, Tm., 178.
Cat-fish, 262, 298.
Cathayans, 271.
Caudell, Mr. A. N., iii.
Cervus Xanthopygus, M.-Edw., 133.
Cerambycidae, 107.
C. mantchuricus, Sw., 133.
Chancelade, 280, 282, 283, 286.
Chang-pai Shan, vi, 272, 337.
Ch'ang-mao-tzu, 274.

Ch'ang Mao-tzu, 275.
Chang Tso Lin, 128.
Ch'ang Chun, vii, 273.
Chang-tzu, 104.
Chanka, vi.
Ch'ao-yang Chen, 4, 13, 26, 30, 34, 45, 50, 55, 66, 80, 81, 83, 87, 88, 89, 92, 110.
Ch'a-kou, 158.
Chat, 328.
Chao Ling, 11.
Chien Lung, 3, 10.
Chihli, v, 12, 284, 302.
China Branch of Royal Asiatic Society, Journal of, 245, 276.
China Tea Clippers, 6.
Chin-chou Fu, 9.
Chinese, 285, 301.
Chinese Eastern Railway, 187.
Ch'ing Ho, 17.
Ch'ing Valley, 22.
Ch'in-wang Tao, 173, 174, 183.
Chosen Railway, vii.
Choto, 286.
Chrysomelids, 165.
Chubb, Mr. C., iii.
Chuckchis, 280.
Cichloselys sibericus, Pall., 160.
Citellus mongolicus, M.-Edw., 182.
Clark, Mr. A. H., ix.
Clicking-beetles, 108.
Coastal Tartars, 301.
Coccinellidae, 107.
Coccinella variabilis, 22.
Coccothraustes, 328.
Codonopsis silvestris, Komarov, 260.
Coos Bay, Oregon, 284.
Coptocyla, 108.
Coptolabrus, 165.
Corea Bay, v.
Coreans, 31, 289, 302.
Corean pine (*Pinus koraiensis*, S. & Z.), 67.
Corvus, 238.
Corvus corax ussurianus, 237.
Corvus macrorhynchus mandshuricus, Buturlin, 238.
Cottus, 178.
Craceomys regulus, Thos., 262, 103.
Cricetulus, 175.
Cricetulus andersoni, 260.
fumatus, Thos., 260.
griseus, M.-Edw., 182, 260.
nestor, Thos., 103.
triton, de Winton, 182.
Crocidura lasiura, 103.
Crô-Magnon, 277, 282, 286, 287.
Crô-Magnon skull, 283, 284.
Crô-Magnards, 278, 279, 283, 284, 285, 288.
Cuculus intermedius, Vahl, 68.
Cushman, Mr. R. A., iii.
Cyanoptilia cyanomeloena, Temm., 160.
Cyprinidae, 90.
Cypripedium guttatum, Swartz, 168.
Cypripedium macranthum, Swartz, 79.
Czecho-Slovak, 304.

Dairen, viii, 149.
Dalny, vii, 149, 173, 174, 183.
Dauria, 274.
Daurien, 274.
Daurien Mongols, 274.
David's squirrel, 70.
Dawkins, Professor Boyd, 280.
Decastries Bay, 286.
Dechelette, Joseph, 280.
Diogenes, 181.
Diptera, 165.
Dobson's Shrew (*Crocidura lasiura*), 103.
Dolichocephaly, 283.
Dolichocephalic, 286, 287.
Dolonor (*Lama Miao*), 7.
Dordogne, 288.
Douglas, Mr. A. J. A., viii.
Dragon's Pit, 55, 56.
Droski, 11.
Dryobates major tscherskii, But., 48.
Dupont, 280.
Durgan, Prince, 272.
Dusky-thrush, 328.
Dybowski, Dr., ix.

East China, 284.
East of the Pass, 296.
Eastern Tombs, 251.
Eichhornia, 329.
Elaphe schrenckii, Strauch, 107, 163.
E. dione, Pallas, 107.
Eleutherococcus senticasus, 202.
Elk, 281.
Emberiza aureola, Pallas, 21, 328.
nivalis, L., 182.
rustica, Pallas, 328.
En Pei, 316.
Epimys confucianus, M.-Edw., 182.
norvegicus caraco, Pallas, 58, 103.
Equus przewalskii, 278.
Eremias argus, 176.
Er-tao-kiang, 95, 128, 137.
Erinaceus europaeus amurensis, 104.
Eskimos, 275, 277, 278, 279, 280, 281, 289.
Esox reichertii, Dybowski, 246.
Eurystomus calonyx, Sharpe, 44.
Eutamias asiaticus, 70.
senescens, Miller, 182.
orientalis, 70.
Ever White Mountains, vi, viii, 61, 65, 95, 137, 272
"Exploration in Eastern Asia", ix.

Fancha, 272.
Felis tigris longipilus, Fitzinger, 133.

Fengtien, ii, v.
"Fish Skin Tartars", E. H. Fraser, 245, 276.
Fish Skin Tartars, 281, 290, 291, 292, 294, 295, 299.
Flycatcher, 160.
Flying squirrel, 323.
Font-de-gaumé, 288.
Formosa, 181.
Fox, 297.
France, 280.
Fraser, E. H., 245, 276, 294.
Frenzel (*G. coelestis*), 43.
Fridelli, 66.
Frog River, 30, 39, 51, 56.
Fu-chin Hsien, 264, 265, 290, 291, 297.
Fuegians, 282, 284.
Fulford, Mr. H. E., viii, 66.
Fu Ling, 11.

Gahan, Dr. C. J., iii.
Gallinago stenura, 43, 161, 177.
G. coelestis, Frenzel, 43.
Garrulus, 329.
branditii, Eversmann, 58.
Gecko, 180.
japonica, 106.
Genghis Khan, 27.
Geotrupes auratus, Mots, 78.
German, 304.
Germany, 285, 286, 307.
Giliaks, 274, 290, 303, 304.
Gilyaken, 275.
Gilyaks, 274, 275, 285, 286, 288.
Glaucidium passerinum orientale, 237.
Gobi Desert, 175.
Gold-washing, 302.
Golde, 274, 286.
Goldis, 274, 290.
Gorbitza River, 273.
Great Khingan Range, vi.
Great Wall, 8, 173.
Greene, Mr. C. T., iii.
Green-woodpeckers, 329.
Greyhound, 5.
Grey fur squirrel, 70.
Grimaldi, 277.
Ground Squirrel, 70.
Gudgeon, 262.

Hai-lung Chêng, 26.
Hall of State, 9.
Ha-ma Ho, 30, 33, 52, 90, 110.
Hamy, 279.
Hanka, vi.
Han Ping Wai, 129.
Hansen, Mr. Dagnes, 257.
Han Tung-ling, 130, 131.
Harbarovsk, vii.
Harbin, vii, 187, 252, 253, 254, 264, 266, 301, 303, 304, 307.
Harbin-Vladivostok, 187, 199.
Hares, 5.
Hartshorn, 296.
Hawes, Mr. C. H., viii.
Hawfinch, 328, 329.
Hazel-grouse, 233, 297, 327.
Hazel-hens, 205.
Hdrlicka, Dr. A., 276.
Heilungkiang, ii, v, vii, ix, 274, 296, 299, 328, 334.
Herb Paris, 202.
Hermit-crab, 181.
He-shih-t'ou, 92, 93.
Heude, 225.
Himalayas, 225.
Hinton, Mr. M.A.C., iii.
Hippocampus, 179.
Hirundapus caudatus, Latham, 326.
Hirundo rustica gutturalis, Scopoli, 177.
daurica nipalensis, Hodgson, 177.
Hollister, Mr. Ned, ii.
Horornis cantans borealis, Campbell, 160.
Hosie, Sir Alexander, viii.
Hotuala, 272.
Hsiang-tzu, 104.
Hsia-pung-ch'u-tzu, 69.
Hsin-min Fu, 9.
Hsing-an Mountains, vii.
Hua-shu-Lin-tzu, 129, 131, 132, 133.
Hui-fa Ho, 141.
Hui-fa-ch'êng-tzu, 90.
Hui-nan Ting, 30, 32, 81, 83.
Hun-chiang, 159.
Hunghutzu, 31, 39, 50, 51, 60, 66, 79, 81, 83, 117, 118, 120, 127, 128, 130, 139, 141, 207, 242, 296, 321, 330.
Hurka River, vi, 271.
Hydnum erinaceus, Bull., 205.
Hyla arborea japonica, Gunther, 163.
immaculata, Boettger, 163.
Hydrophilus, 108.
Hydropotes inermis, Sw., 104.
coreanus, David, 104.
Hypoderma, 109.

I-mien-po, 187, 191, 199, 225, 241, 247, 266, 307, 308, 309, 311, 320, 321, 330, 333.
Icelandic Bridge, 280.
Imperial Palace, 9.
India, 282, 289.
Industrial Museum, 11.
Innkeeper, 13, 14.

James, Sir H.E.M., viii, 66.
Jao Ho, 297.
Japan Sea, v.
Japanese, 302.
Jartoux, 66.

Jehol, 7.
Jenseng, 66, 295.
Jews, 304.
Jordan, Dr. David Starr, iii.

Kailan Mining Company, 6.
Kai-yuan, vii, 270.
Kamschatka, 275, 303.
Kamschatkans, 289.
Kang, 19, 36.
K'ang-Hsi, 3, 10, 66.
Kansu, 29.
Kao-er-tang, 291, 295, 297, 299.
Kemas raddei, 226.
Kidsi swamp, 286.
Kile, 274.
Kin dynasty, 271.
Kirin, ii, v, vii, ix, 296, 334.
Kitans, 271.
Knab, Mr., iii.
Korchin Mongols, 275.
Kotomanga, 286.
Kou-lan-tzu-hua, 79.
K'ou-pan-tzü, 9.
Kuan-tung, 296.
Kuang-kai-er, 93.
Kung Hai Tzu, 61.
Kuril Islands, ii.

La Bruniere, M. de, 274.
La-ha-su-su, 299, 300.
Lake Birien, 256.
Laloy, Mr., 280.
Lama Miao, 7.
Lampyridae, 108.
Lan River, 7.
Lang t'ou, 149.
Lanius, 328.
cristatus lucionensis, L., 105.
Lao Gno Ho, 137.
Lao Pai Shan, vi, viii, 56, 61, 137.
Lao Tatzu, 275.
Lapps, 280.
La Touche, Mr., iii, 68, 173.
Laufer, 299.
Leiotrichi, 281, 288, 289.
Leiotrichous Races, 283.
Lepidoptera, 50.
Lepus mandshuricus, 236.
Lespedeza bicolor, 201, 204.
Li, 272.
Liao Tung Gulf, v, vi.
Liao Tung Peninsula, 273.
Liao Valley, v.
Lilium tigrinum, ?, 110.
Linaria, 328.
Little Khingan, vi.
Liu, 56.
Liu-chia-tien, 52, 55.
Liu Ho, 25, 90.
Liverwort, 112.
Long White Mountain, 61, 65.
Lowe, Dr. P., iii.
Lower Sungari, ix.
Lower Tunguska River, 286.
Lucicola, 108.
Lung Wang, 55.
Lyrurus tetrix ussuriensis, Lorenz, 260.

Maack, viii.
Macropthalmus japonica, de Haan, 178.
Magdelenian, 286, 289.
Magdelenian Age, 280, 281, 283.
Magdelenian Crô-Magnards, 279, 288.
Magdelenian Men, 278.
Magdelenian Remains, 288.
Magho, 285.
Maize, 33.
Makushkin, Nicholai, 187.
Mammoth, 280.
Managirn, 274, 286.
Manchus, 285, 294, 301.
Manchu Government, 127.
"Manchu and Muscovite", viii.
Manchu Tartars, 295, 296.
Manchuli, 301.
"Manchuria, its People, Resources and Recent History," viii.
Manchurian Region, viii.
Mandarin teal, 59, 161, 327, 329.
Marchantia, 112.
Margaritoff, 276, 294.
Maritime Province, ii.
Martes martes, 329.
flavigula borealis, Raade, 205, 238.
zibellina, 239.
Melanauster glabripennis, 108.
Meles taxus amurensis, 104.
Meloë, 108.
"Men of the Old Stone Age," 286, 287, 288.
Mercury Mines, 309.
Microtus pelliceus, Thos., 103.
calamorum, 103.
Michailovskoje, 286.
Miller, Gerrit S., Jr., ii, ix.
Mings, 3, 8, 271.
Ming Empire, 272.
Miocene, 280.
Miocene Bridge, 280.
Mogera robusta, 69.
Mongolia, v, vi.
Mongols, 276.
Mongols, eastern, 284.
Mongols, sinitic, 284.
Mongolo-Americans, 276.
Mongoloid races, 285, 289.
Monkshood, 111, 329.
Morrison, Dr. George E., iii.
Moschus sibiricus, Pallas, 104.
Mosquitoes, 263.

Mountain Sea Pass (Shan-hai Kuan), 8.
Mu Hai Tzu, 61.
Murina huttoni fuscus, 242.
Mu-tan-kiang, vi.
Mu-tan Ho, 256.
Mukden, vii, 9, 12, 187.
Mus wagneri manchu, 103.
Muscidae, 109.
Muscovite, 254.
Musk-ox, 280.
Mustela nivalis pygmaeus, Allan, 104.
Mustela sibiricus davidiana, M.-Edw., 104.
Myotis ikonnikovi, Ognev, 324.
Mytilus, 181.

Nan Hai, 256.
Nan Lung, 59.
Nao-li Ho, 264, 293.
National Geographic Magazine, 61.
Necrophorus, 107.
concolor, Kraatz, 107.
Negada, 274.
Neolithic Age, 277, 289, 303.
Neolithic Men, 282, 289.
Nepal, 284.
Nepalese, 289.
Nertchinsk, 286.
Neuroptera, 77, 165.
Neverita ampla, Phil., 178.
Newchwang, 44, 173.
"Niggerhead" swamp, 34.
Nikolski, ii.
Nikolaievsk, 256, 285, 286.
Ninguta, 256.
Ning-yuan, 9.
Niphobolus lingua, Sprengel, 180.
North America, 282.
North China, 284.
North-eastern China, v.
North Shansi, 4.
Northern Tombs, 11.
Nuchens, 271.
Nucifraga, 329.
caryocatactes macrorhynchos, Brehm, 238.
Nurhachu, ii, 9, 12, 272, 273.
Nyctea nyctea, L., 182.

Oakwood, 258.
Oakwood Farm, 259, 263.
Obercassel, 285, 286.
Ochotona, 262.
Octopus, 181.
Ocypoda ceratophthalma, 178.
Ognev, ix.
Oidemia stejnegeri, Ridgway, 182.
Oil-beetle, 108.
Okhotsk, 275.
Okhotsk Sea, 285.
Old Tartars, 275.
Oltscha, 274, 286.
Onchorhynchus, 275.
Ontario, 284.
Oriental roller, 44.
Oriental turtle dove, 320, 329.
Oriolus diffusus, Sharpe, 160.
Oroczi, 276.
Orotchis, 276, 290, 299.
Orotchons, 274.
Orotschonen, 274, 286.
Osborn, H. F., 286, 287, 288.

Paik-tu-san, 61.
Pak-tu-san, vi, 137.
Paleolithic Age, 277, 278, 279, 289.
Papilio maackii, Men., 77.
Parasilurus asotus, 94, 162.
Patagonians, 284.
Pe-chi-li Gulf, v, 174.
Pei Ling, 11.
Pei Ho, 5.
Pei-tai Ho, 173, 174, 175, 183.
Peking, 10.
Peony River, vi, 256.
Perigueux, 280.
Perisoreus infaustus maritimus, But., 329.
Petrovski, 285.
Philippines, 181.
Phylloscopus, 328.
P'iao Ho, 129.
Picea hondoensis, Mayr, 67.
Picus martius reichenowi, Kothe, 48, 68.
Pig, domestic, 73.
Pika, 262.
Pike, 246.
Pinus koraiensis, S. & Z., 67.
Platycodon grandiflorum, 111, 180.
Plecoglossus altivalis, T. & S., 179.
Pleistocene, 280, 289.
Poland, 304.
Poliakov, ix.
Port Arthur, 149, 173, 174, 183.
Polynesian races, 283.
Prawns, 178.
Primorsk, v, vi, vii.
Primorskaya, ii.
Prunella erythropygius, *Sw.*, 227.

Raccoon-dog, 297.
Radde, Gustav, viii, ix, 236.
Railway Guard, 307, 311.
Rana amurensis, Boul., 50, 163.
emeljanovi, Nikolski, 163.
nigromaculata, Hallowell, 163.
temporaria, L., 163.
Rapana bezoar, Lam., 178.
Rathbun, Miss M. J., iii.
Reed-vole, 262.
Reed-warbler, 17.
Red-back vole, 262.

Red Indians, 282.
Redpole, 328.
Regis, Mr., 66.
Reindeer Age, 278.
"Reindeer Man", 277, 278, 279.
Reindeer Tungus, 275, 277, 289.
Reinther-Tungusen, 275.
"Reisen und Forschungen im Amur-Lande," ix, 285.
Rhamnus, 202.
Rhynchota, 108.
Riabchick, 205, 283.
Richmond, Dr. C. W., iii.
Riley, Mr. J. H., iii.
Robson, Mr. G. C., ix.
Ross, Dr. John, viii.
Russians, 304.
Russo-Japanese War, viii, 12.

Sable, 297.
Saghalin Gilyaks, 276.
Saghalin, Island of, ii, ix, 303, 304, 324.
Salamandrella keyserlingii, Dybowski, 331.
Salmon, 298, 299.
Samafalo, 187, 188, 189, 195, 200, 307, 316.
Samagirn, 274.
San Juan Island, 284.
San Sing, 256, 299.
Saxicola torquata stejnegeri, Parr, 328.
Schmidt, ix.
Schrenck, Leopold von, viii, x, 262, 274, 275, 285, 288, 290.
Schroder, Mr. F. M., 252.
Sciurotamias davidianus, 70, 182.
Sciuropterus, 241.
Sciurus vulgaris mantchuricus, Thos., 70.
Scottish Presbyterian Mission, 26.
Sea-urchins, 181.
Selenarctos ussuricus, Heude, 74, 219, 333.
thibetanus, Cuv., 74.
Selenga Buriats, 276.
Selaginella, 112.
Shamanism, 276.
Shan-chêng-tzu, 23, 25.
Shanghai, 225.
Shan-hai Kuan, 8, 9, 173, 174, 178, 183, 272, 296.
Shansi, 12.
Shantung, 12, 301.
Sharpe (*Eurystomus calonyx*), 44.
Shengking, ii.
Shensi, 29.
Shiao Hai Tzu, 61.
Shilka River, 286.
Shrike, 328.
Shrimp, 178.
Shun Chih, 272.
Siberia, 269, 273.
Siberians, 284, 289.
Sibos, 274.
Sickawei Museum, 225.
Sicista, 323.
caudata, 324.
concolor, 323.
Sika-deer, 286.
Silpha, 107.
Silver fir, 67.
Sineperca scherzeri, 162.
Sitta amurensis, Sw., 204.
Smithsonian Institution, 276.
Sollas, Dr. W. J., 277, 280, 281, 286, 287.
Solons, 274.
Somerset Light Infantry, 4.
Sorex annexus, Thos., 104, 260.
South America, 282.
South Asiatic Mongoloid, 284.
Spelaeus cavifrons, 220.
Spiders, 263.
Spine-tailed swift, 324.
Spiroea palmata, 110.
Spruce, 67.
Squilla, 178.
Stag, 281.
Steensby, Mr. H. P., 280.
Stegneger, Mr. L., iii, ix.
Stenavoi Mountains, ii, v.
Sterna longipennis, Nordmann, 260.
Sturgeon, 299.
Sungari River, 31.
Sus scrofa, 73.
Swinhoe's bush-warbler, 160.
Swinhoe's ducks, 5, 161.
Switzerland, 280.
Syrphidae, 109.
Syrrhaptes paradoxus, Pallas, 182.

Tabanus, 109.
bovinus, 109.
Taczanowski, 237.
T'ai Tsung, 9, 12, 272.
Taku, 5.
Takydromus amurensis, Peters, 49, 107.
Tamaha, 275.
Tamara, 275.
Tang-ku, 5, 6.
Tang Shan (Tongshan), 6.
T'ang Ta Yeh, 128.
Tartars, 291, 292, 294, 298, 299, 302.
Tartary, Gulf of, v.
"Tectiforms", 287.
Tetrastes bonasia amurensis, 233.
Tetrodon bimaculata, 179.
"The Long White Mountain", viii.
"The World's Chinese Student's Journal," 299.
Thibetans, 281, 289.
Thomas, Mr. Oldfield, iii, ix, 324.
Tieh-ling, vii.
Tientsin, 5, 333.

T'ien Tsung, 272.
Tiger, 133.
Tobacco, 33.
Tortoise-beetle, 108.
Transbaikalia, v, vii.
Transbaikalia-Heilungkiang border, vii.
Trans-Siberian Railway, vii, 252.
Tricolor flycatcher, 160.
Trillium obovatum, 79.
Tsa-tzü-kow, 19, 20
Tumen River, ii, 275.
Tung Ling, 25.
Tungus, 275.
Tungusen, 286.
Turanians, 276.
Turdus eunomus, Tem., 328.
Turley, Mr. R. T., viii.
Turnix blanfordi, Blyth, 176.
Turnstone, 177.

Umbelliferae, 111.
Upper Sungari, ix.
Urocissa, 182.
Ursus torquatus, Blan., 74.
Ussuri, vi, 303, 334.
Ussuri Valley, 274, 286.

Valeriana officinalis, 111.
Vancouver Island, 284.
Venault, M., 274.
Verneau, 287.
Viburnum, 202.
Vladivostok, 274, 275, 304, 309.
Wai-ch'a-k'ou, 158.
Wang-chia-kou, 21.
Water-beetles, 108.
Water-vole, 47.
Weale, Putnam, viii.
Wells, Mr. T., ix.
Wels, 298.
Wên Huang-ti, 12.
Willow-wren, 328.
Wilui River, 286.
Wintergreen, 110.
Wischniakovski, Mr. A., 187, 266, 309.
Wolves, 300.
Wood owl, 237.
Wu San Kuei, 8, 272.
Wula, 296.
Wula ts'ao, 296.
Wu Lien Teh, Dr., 299.
Wylie, Rev. J. A., viii.

Xanthopygia xanthopygia, Hay, 45, 160.

Yablonai, 200, 207, 334.
Yablonoi Mountains, ii, v, 273.
Yalu, vi.
Yamato Hotel, 9.
Yang-tzu-kiang, 30.
Yellow-breasted bunting, 17, 320, 328.
Yellow-throated martin, 322.
Yenesi Ostiaks, 276, 277.
Yen-t'ung La-tzu, 102, 130, 137, 139.
Yezo, 303.
Ying k'ou, 173, 174, 183.
Young, Dr. and Mrs. W., 4, 26, 30, 87.
Younghusband, 66.
Yuan, 271.
Yü-p'i Ta-tzu, 275, 293, 297.
Yu-shu-ch'a, 66, 79.

Zacco platypus, 82, 94, 162.
Zostera, 179.